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# RFP Indian Journal of Medical Psychiatry

**July - December 2021**
**Volume 4, Number 2**

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**Review Articles**

*Review Article*

RFP Indian Journal of Medical Psychiatry
Volume 4 Number 2, July – December 2021

# Role of Characteristics of Workforce on Psychological Well-Being

**K Chandraiah**

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Due to rapid population and workforce aging in many countries, organizational researchers and practitioners have become increasingly interested in the role of age in the work context (Finkelstein et al., 2015; Truxillo et al., 2015). In this article, we review research in one particular area within the growing field of work and aging: the role of age in relationships between work characteristics and occupational well-being. Research in this area is important because work characteristics and work (re)design can have differential effects on younger and older workers' well-being (Griffiths, 1999; Truxillo and Zaniboni, 2015) and may influence how workers' well-being develops across their careers (Matthews, 2015; Schmitt and Bathen, in press).

The literature on subjective well-being often construes well-being as a primarily affective state (Diener, Suh, Lucas & Smith, 1999), with well-being being conceptualized as simply the relative frequency of positive affects compared to negative affects. However, over the past 25 years several broader conceptualizations of well-being have been proposed, including not only affect, but also behavior and motivation (Ryff, 1989; Ryff & Keyes, 1995; van Horn, Taris, Schaufeli & Schreurs, 2004; Warr, 1994, 2007). This raises the question how subjective well-being should be understood: does well-being mainly refer to an affective judgment regarding the events that occur in people's lives (Diener et al., 1999), or should it be considered a broader phenomenon that involves other, non-affective aspects as well? Although few others held as extreme a position as that of Taylor, in those days much scientifi c and practical research was directed at examining how worker productivity could be increased, e.g., through improved selection of personnel, training and reducing absenteeism. As Koppes and Pickren (2007) demonstrate, neither the association between work characteristics and well-being, nor that between well-being and productivity received much attention at the time, at least not in the research published in major psychology journals. This changed in the 1930s. Following the infl uential Hawthorne studies in which the effects of working conditions on worker productivity were examined (Mayo, 1933; cf. Kompier, 2006), human motivation, "emotional well-being" and job satisfaction were uncovered as relevant factors for work performance.

Text books of industrial and organizational psychology started devoting chapters to subjects such as maintaining "fi tness" at work, the effects of monotonous work and ways of increasing work motivation (Landy & Conte, 2010; Koppes & Pickren, 2007). At present, emotions and well-being at work are topics that are studied in their own right, and few researchers in the fi eld of work and organizational psychology would contend that examining employee well-being is irrelevant when it comes to improving productivity. Perhaps the most important reason for examining work performance and well-being inWork stress can be referred as a strain, depression, fretfulness,

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anxiety, angst etc one's faces in his workplace when he is overloaded with copious demands and expectations which he/she has to complete within a limited time-frame. Work stress is also termed as —job stress or—occupational stress. Therefore this paper has attempted to analyze the status of work stress in different countries and different sectors or unit by reviewing 203 research journal published from 1993 to 2017. The study includes the different meaning of work stress and its impact on physical and psychological state of employees of different industries/research unit. Workplace health promotion programmes are especially difficult to evaluate well. To evaluate these interventions in the same way as experience psychological studies is not always feasible. Interventions attempt to change human behaviour, which depends on so many conditions impossible to control: motivation both of interveners and of intervened, their personalities, life experience, education, actual state of health, tradition and countless other factors

It is recognized that the psychological health of employees is a crucial determinant in their overall health and that poor psychological health and stressors at the workplace can be a contributory factor to a range of physical illnesses like hypertension, diabetes and cardiovascular conditions, amongst others. In addition, poor psychological health can also lead to burn-out amongst employees, greatly affecting their ability to contribute meaningfully in both their personal and professional lives

Psychologial health related problems have an impact on employers and businesses directly through increased absenteeism, negative impact on productivity and profits, as well as an increase in costs to deal with the issue. In addition, they impact employee morale adversely.

Work-related stress is a great cause of occupational ill health, poor productivity and human error. This means increased sickness absence, high staff turnover and poor performance in the organization and a possible would increase in accidents due to human error. Work-related stress could also manifest as heart disease, back pain, headaches, gastrointestinal disturbances or various minor illnesses; as well as psychological effects such as anxiety and depression, loss of concentration and poor decision making.

Stress is the adverse reaction people have to excessive pressures or other types of demands placed upon them. There is a clear distinction between pressure, which can be a motivating factor, and stress, which can occur when this pressure becomes excessive.

Some occupations are at more risk of psychological health problems than others. A study in the Netherlands mapped skill levels against the pace of work to have an idea about the risk for stress levels and psychological ill health for different occupations. Higher stress levels correlated with a higher risk for psychological ill health (Houtman IL, Kompier MA.1995).

### *Related Stress and Improving Psychological Well-Being at the Workplace*

There have been countless interventions by employers and workers to attempt to make workplaces healthier, in many countries and many diverse settings. The intention of this document is to sort out the wheat from the chaff, to find the common approaches that generally seem to work well to accomplish the aims of improved worker health and enterprise productivity. In other words, to sort out what works and what doesn't. So before discussing promising interventions, it is appropriate to spend some time discussing the issue of evaluation, as it relates to protecting and promoting workplace health, safety and wellbeing. There are several measures assessing stress and its impact on psychological well-being and the same have been extensively used.(Verma M, 2001, Thippeswamy , 2007; Naik NM, 2008; Shekhar S. 2008;).

Some of the dimensions are measured as follows:

### *Relationship problems with superiors*

The common reason for office stress is dealing with difficult boss. But this may be far easier to solve by improving communication skills. Having a sincere conversation may make a difference. Sometimes, the boss may set unreal targets, where an honest discussion can bring out what deadlines can be met.

More specifically the tasks that are not part of an employee role or skill set can also cause stress. Companies often make employees multitask but this could potentially affect their ability to deliver. Communicating with superiors about this matter at the earliest is the best way to resolve this. One area that presents an opportunity for conflict for the personality-disordered individual concerns the hierarchical nature of organizations. [Wilke HJ, 1997].

### *Relationship problems with colleagues*

Another, reason could be difficult colleagues or co-workers. handling with a difficult co-worker can be a bit more difficult as their performance is often

pitted against oneself. This again has to be resolved by an amicable discussion, concluded by a mutual agreement. One can explain to the colleague as how a team can have far more benefits than indulging in rivalry. But if things are getting out of hand, it should be brought to the notice of the superior concerned.

### *Work family conflict*

Most of the families are struggling to cope with an increasingly complex world. Individuals are struggling to find the right balance between work and family responsibility (Shellenberger S, Hoffman SS, Gerson R., 1994) Domestic issues can affect work where balancing work and home by allotting adequate time for both can help reduce stress.

### *High demand for performance*

Further, unrealistic expectations, especially in the time of corporate reorganizations, which, sometimes, puts unhealthy and unreasonable pressures on the employee, can be a tremendous source of stress and suffering. Increased workload, extremely long work hours and intense pressure to perform at peak levels all the time for the same pay, can actually leave an employee physically and emotionally drained. Excessive travel and too much time away from family also contribute to an employee's stressors.

### *Job insecurity*

Structured workplaces are going through metamorphic changes under intense economic transformations and consequent pressures. Reorganizations, takeovers, mergers, rightsizing and other changes have become major stressors for employees, as companies try to live up to the competition to survive. These reformations have put demand on everyone, from a CEO to a line manager.

### *Bureaucratic constraints*

Organizational size and bureaucratic systems have certain rules and regulations, which are inherent parts of the system to serve as checks and balancing forces.

However, they are likely to serve as constraints and stress for managers. Other job stressors include uncomfortable working conditions, job overload, lack of control over the work process and sheer monotony. (MacLean AA. High Tech Survival Kit, (1986) Decreasing work role ambiguity would reduce job strain and work-related psychological disorders including anxiety disorders.(Sauter SL, Murphy LR, Hurrell JJ.1990, 1992).

The development and implementation of a workplace psychological health policy and program will benefit the health of employees, increase the productivity of the company and will contribute to the well-being of the community at large. It has been found that psychosocial intervention courses along with stress management training and health promotion interventions have a positive impact on psychological well-being (Gaveling RA, 2008). A healthy population is an economically productive population and it is in the benefit of companies to safeguard public health. Given the heavy contributions of the private sector to the economy, employee wellness programs are not only a strategic priority for India but also an economic imperative for corporations. (World Economic forum. 2009).

It can be summarized that, psychological being and work balance has very good impact on each other. Handling with a difficult co-worker can be a bit more difficult as their performance is often pitted against oneself. Sometimes, puts unhealthy and unreasonable pressures on the employee, can be a tremendous source of stress and suffering. Increased workload, extremely long work hours and intense pressure. Reorganizations, takeovers, mergers, rightsizing and other changes have become major stressors for employees, as companies try to live up to the competition to survive.

## References


1. A step-by-step approach using the Management Standards. Health and Safety Executive, UK; 2007. Managing the causes of work-related stress. [Google Scholar].
2. European Network for Workplace Health Promotion. Newsletter 09/2010/. www.enwhp.org/fileadmin/downloads/8th_Initiative/Psychologial Health_Broschuere_businesscase.pdf. [Accessed on 2010 November 9] [PubMed].
3. Gaveling RA. Institute of Occupational Medicine. Edinburgh; 2008. A review of workplace interventions that promote Psychologial wellbeing in the workplace. Draft report. [Google Scholar].
4. Houtman IL, Kompier MA. Risk factors and occupational risk groups for work stress in the Netherlands. In: Sauter SL, Murphy LR, editors. Organizational Risk Factors for Job Stress. Washington DC: APA Press; 1995. [Google Scholar]
5. Lazarus, R. S., & Cohen, J. B. (1976, June). Theory and method in the study of stress and coping in aging individuals. In Vortrag bei der WHO

Konferenz über Society, Stress and Disease: Aging and Old Age, Stockholm.

6. MacLean AA. High Tech Survival Kit: Managing Your Stress. New York: John Wiley and Sons; 1986. [Google Scholar].
7. Naik NM. M Phil Thesis, NIMHANS Bangalore. 2008. A study on stress and coping amongst employees of manufacturing industry. [Google Scholar].
8. Sauter SL, Murphy LR, Hurrell JJ. Prevention of work-related psychological disorders: A national strategy proposed by the National Institute for Occupational Safety and Health (NIOSH) In: Sauter SL, Keita PG, editors. Work and Well-Being: An Agenda for 1990's. Washington DC: APA Press; 1992. [Google Scholar].
9. Shekhar S. M Phil Thesis, NIMHANS Bangalore. Job satisfaction and stress amongst professional social workers. [Google Scholar].
10. Shellenberger S, Hoffman SS, Gerson R. Unpublished paper presented at the American Psychological Association. Los Angeles, California; 1994. Psychologists and the changing family-work system. [Google Scholar].
11. Thippeswamy . M Phil Thesis, NIMHANS Bangalore. 2007. A study on stress and coping patterns amongst business process outsourcing personnel. [Google Scholar].
12. Verma M. M Phil Thesis, NIMHANS Bangalore. 2001. Cognitive-Behavioural Stress Management for women software professionals. [Google Scholar].
13. Wilke HJ. The authority complex and the authoritarian personality. J Anal Psychol. 1977;22:243–9. [PubMed] [Google Scholar].
14. World Economic forum. 2009. Employee wellness as a strategic priority in India. Preventing the burden of non-communicable disease through workplace wellness programmes. Report of a joint event of the World Economic Forum and the World Health Organization country office for India. (In co-operation with Public Health Foundation of India) [Google Scholar].

# Emotional and Behavioral Disorder of Children and its Treatment Approach

**Rajendra Kumar Sahu[1], Ashok Kumar Dhanwal[2]**

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## Abstract

***Introduction:*** The Emotional disorder is a condition characterized by an inability to learn and build or maintain satisfactory interpersonal relationships with peers and teachers, inappropriate types of behavior or feelings under normal circumstances, a general pervasive mood of unhappiness or depression, and a tendency to develop physical symptoms or fears associated with personal or school problems. Behavior problems among children are a deviation from the accepted pattern of behavior on the part of children when they are exposed to an inconsistent social and cultural environment. 2001 WHO report indicates the 6-month prevalence rate for any MHD in CYP, up to age 17 years, to be 20.9%. Identification and selection of suitable therapeutic strategies need multi-level and multi-disciplinary approaches, holistic management strategies play significant roles which include combinations of several interventions like a child- and family-focused psychological interventions including cognitive behavioral therapy, behavioral modification, and social communication enhancement techniques, parenting skills training and psychopharmacology. The pharmacological treatment is usually considered in combination with psychological and other environmental interventions such as counseling, behavioral therapies, interpersonal psychotherapy, parent management training, social skills training, school based interventions, play therapy, expressive arts therapy, diet and exercise, and attachment based therapy.

***Conclusion:*** Emotional and behavioral disorders of children and adolescents have significant negative impacts on the parents as well as society, in the form of direct behavioral consequences and costs, and on the individual, in the form of poor academic, occupational and psychosocial functioning and on the family. Prevention and management of EBD are not easy and it requires an integrated multidisciplinary effort by healthcare providers at different levels to be involved in the assessment, prevention, and management of affected individuals, and also to provide social, economic, and psycho-emotional support to the affected families. This is a very crucial topic for developing countries where the most importance is given to children and youth community.

**Keywords:** EBD; Emotional disorder; Behavioural disorder; Mental problems in children.

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## Introduction

An emotional disorder is a condition in which children and adolescents have difficulty in learning and building or maintaining satisfactory interpersonal relationships with peers and teachers. Children with emotional disorders have a general pervasive mood of unhappiness or depression, inappropriate types of behavior or feelings under normal circumstances, and physical symptoms or fears associated with personal or school problems.[1] Emotional problems, such as anxiety, depression, and post-traumatic stress disorder develop in later childhood and adversely affect a child's educational performance. Behavior disorders in children are a deviation from the accepted pattern of behavior. It involves a pattern of disruptive behaviors in children that last for at least 6 months and cause problems in school, at home, and in social situations. Attention deficit hyperactivity disorder (ADHD), oppositional defiant disorder (ODD), and conduct disorder (CD) are the most common types of behavior disorders.

The behavior disorder is often seen as less stigmatizing, less severe, more socially acceptable, and more practical than the emotional disorder. A 2001 WHO report indicates the 6-month prevalence rate for any MHD in CYP, up to age 17 years, to be 20.9%, with disruptive behavior disorders (DBD) at 10.3%, second only to Anxiety disorders at 13%., and about 5% of Child and Young Population in the general population suffer from depression at any given point in time, which is more prevalent among girls (54%) (2). National Mental Health Survey of India 2016 suggests that the Prevalence of mental disorders in the age group 13-17 years is 7.3% and nearly equal in both genders, this survey also suggests that nearly 9.8 million young Indians aged between 13-17 years require active interventions. Identification and selection of suitable therapeutic strategies depend on a careful assessment of the prevailing symptoms, the family and caregiver's influences, wider socio-economic environment, the child's developmental level, and physical health.

Identification and selection of suitable therapeutic strategies need multi-level and multi-disciplinary approaches which include Psychologists, Psychiatrists, Behavioural Analysts, Nurses, Social care staff, Speech and Language Therapists, Educational staff, Occupational Therapists, Physiotherapists, Pediatricians, and Pharmacists. Pharmacological treatment is usually considered in combination with psychological and other environmental interventions.[3] Holistic management strategies play significant roles in the management of children with a wide range of emotional, behavioral, and social communication disorders. It includes combinations of several interventions like a child and family focused psychological strategies including Cognitive Behavioural Therapy (CBT), behavioral modification and social communication enhancement techniques, parenting skills training, and psychopharmacology.[3]

Psychostimulants are the first choice of drug for the management of ADHD in children and the young population for more than the last 6 decades. Non-stimulant therapy with Atomoxetine or alpha 2-adrenergic agonists (Clonidine and Guanfacine) are the second-line alternative options (4). The antipsychotics (e.g., Risperidone) and Selective Serotonin Reuptake Inhibitors (SSRI) are the most frequently used medication to treat mood and repetitive behavior problems. Naltrexone is an opioid antagonist that has been shown to significant improvement in symptoms of self-injury, irritability, restlessness, and hyperactivity in autistic children, with minimal side effects and generally good tolerance, although long-term data are lacking.[5] Antidepressants can be used for Major Depression, Anxiety, PTSD, and Social Anxiety, enuresis, and pre-menstrual syndrome.[3]

The first phase of any intervention needs counseling of parents and caregivers by professional guidance by utilizing psychological methods such as collecting case history, using various techniques such as personal interview, and testing interests and aptitudes.[6] The counseling process is a planned, structured conversational, and cooperative process between a counselor and Parents in which a trained professional helps a person to identify sources of difficulties or concerns that he or she is experiencing .[7] Cognitive-behavioral therapy (CBT) is one of the most widely used non-pharmacologic treatments for individuals with emotional disorders (especially depression), and behavioral problems.[8] Cognitive-behavioral therapy (CBT) is a psychosocial intervention that focuses on the development of personal coping strategies that target solving current problems and changing unhelpful patterns in cognitions (e.g., thoughts, beliefs, and attitudes), behaviors, and emotional regulation. CBT integrates cognitive and behavioral learning principles to encourage desirable patterns of behavior. Research evidence from several trials suggests the effectiveness of cognitive-behavioral interventions among CYP with Anxiety and Depression.[9] The introduction of child-focused CBT programs introduced at schools has shown significant improvement in disruptive behaviors

among children.[10] Interpersonal psychotherapy (IPT) is a brief, present-focused psychotherapy that centers on resolving interpersonal problems and decreasing symptoms. It is a highly structured and time-limited approach that follows a manual and is intended to be completed within 12–16 weeks.

Parent Management Training (PMT), also known by another name such as behavioral parent training (BPT) or simply parent training or a family treatment programs. It focuses to change parenting behaviors, by teaching parents positive reinforcement methods for improving pre-school and school-age children's behavior problems (such as aggression, hyper Activity, temper tantrums, and difficulty following directions). There is evidence from published research that social-learning and behaviorally based parent training improves the children's emotional and behavioral problems.[11-13] The Parent Management Training interventions are typically delivered in a group, one 2-h session per week for 4-18 weeks, by a trained therapist, with the focus on improving parenting skills to manage child behavior, where parents typically learn to identify, define and observe problem behaviors, as well as learn strategies to prevent and respond to oppositional behavior.[14-15]

The parent's management training focuses not only on teaching parents to reinforce positive behaviors but breaking the patterns that reinforce negative behavior. The content and sequencing of skills in the training depend on the approach being used. The major focus of PMT is the Provision of positive reinforcement for appropriate child behaviors and limits setting by using structured techniques for child's negative behavior. The differential reinforcement is another way in which parents are taught to respond to positive versus negative behavior in children, such as ignoring for mildly annoying less dangerous behavior, use of the time-out technique, in which parents remove attention (which serves as a form of reinforcement) from the child for a specified period. Here training is given to Parents about how to remove their child's privileges, such as watching television or playtime, systematically in response to unwanted behavior. While following these all strategies, the therapist focuses on the management of consequences calmly, immediately, and consistently, and balanced with encouragement for positive behaviors.

Social skills training (SST) is a form of behavior therapy used by teachers, therapists, and trainers to help persons who have difficulties relating to other people. A major goal of social skills training is teaching persons who may have problems in social interactions.[16] Lacking certain social skills greatly affects making a network of supportive friends that causes social isolation which increases the risk of developing emotional problems or mental disorders.[16] Social skills training is effective in treating children and adolescents with a broad range of emotional problems and diagnoses, Adjustment disorders; marital and family conflicts, anxiety disorders, attention-deficit/hyperactivity disorder, a social phobia may be treated by Social skills training.

Supportive school strategies such as academically-focused interventions, classroom management, social skills, and anger management are most effective for children with emotional and behavioral disorders.[17] Peer Intervention is a distinct form of social support in which the source of support is a peer, (is similar in fundamental ways). The evidence support that school-based interventions significantly reduce disruptive behavior problems.[18,19] Peer mentoring in learning environments for students moving up from primary schools helps growing children. Peer mentor assists in settling into the whole new schedule and lifestyle of secondary school life. Peer listening Within schools available at break or lunchtimes supports the children who have the problem. Peer mediation helps in handling incidents of bullying by bringing the victim and the bully together under mediation by one of their peers.

A peer help group in sports works with young children and adolescents in sports such as football, soccer, track, volleyball, baseball, cheerleading, swimming, and basketball, provide help with game tactics (e.g. keeping your eye on the ball), emotional support, training support, and social support.

Terry Kottman Developed Play Therapy in the early 1990s. Adlerian play therapy (AdPT) combines the underlying concepts of Alfred Adler's theory of individual psychology with the principles and practices of play therapy and allows play therapists to develop their own style in the playroom.[20] In this therapy the therapist assesses children's social interests and devises ways to support the development of community feelings and social skills in play therapy sessions and through consultation with parents and teachers, Based on lifestyle information gathered during the first and second phases of therapy, the Adlerian play therapist develops a conceptualization and treatment plan that guides the rest of the process.[20] The third phase is designed to help clients gain insight into their patterns of thinking, feeling, and behaving. In this phase, the counselor uses mostly

directive techniques with a special emphasis on custom-designed stories and Meta communication to enhance clients' understanding of themselves and others. The fourth phase, reorientation, and re-education consists of a combination of therapist-directed activities intended to teach a variety of skills including problem-solving, communication, anger and anxiety management, and meta-communication designed to teach and reinforce the client's constructive patterns of thinking, feeling, and behaving.[20]

Expressive arts therapy is a multimodal approach in which therapists explore responses, reactions, and insights through pictures, sounds, explorations, and encounters with art processes[21]

Dietary modifications are helpful for some children with ADHD, free fatty acid supplementation or decreased eating of artificial food coloring are advised to people with ADHD. A study report suggests a gluten-free diet reduces ADHD symptoms. Iron, magnesium, and iodine may also affect ADHD symptoms. Regular physical exercise, Diaphragmatic breathing, particularly aerobic exercise are beneficial to reduce the stress, anxiety, and depression of children.[22]

Attachment-based family therapy (ABFT) is an empirically supported treatment designed to capitalize on the innate, biological desire for meaningful and secure relationships. The therapy is based on attachment theory and provides an interpersonal, process-oriented, trauma-focused approach to treating adolescent depression, suicidality, and trauma, and it includes psychosocial support services for the family unit (which includes financial or domestic aid, housing, and social work support), psychotherapeutic interventions (includes treating parents for mental illness, family therapy, individual therapy), education (including training in basic parenting skills and child development), and monitoring of the child's safety within the family environment. Several clinical trials and process studies have demonstrated empirical support for the model and its proposed mechanism of change.[23]

Nursing Role and responsibility in follow up monitoring.

- Blood pressure and heart rate should be checked before treatment and periodically during treatment.
- A child's height and weight should be checked before starting treatments.
- Frequent blood tests, Cholesterol testing, Blood Sugar testing, Electrocardiogram, Height, Weight, and blood chemistry tests should be done.
- Watch for worsening of depression and thoughts about suicide.
- Watch for unusual bruises, bleeding from the gums when brushing teeth, especially if taking other medications.
- Do not stop these medications suddenly without slowly reducing (tapering) the dose as directed by the clinician.
- While taking buspirone, avoid grapefruit juice, Avoid alcohol.

## Conclusion

Emotional and Behavioral Disorders of children and adolescents have significant negative impacts on the parents as well as society, in the form of direct behavioral consequences and costs, and on the individual, in the form of poor academic, occupational and psychosocial functioning and on the family. The costs to family and society include the trauma, disruption, and psychological problems caused to the victims of crime or aggression in homes, schools, and communities, together with the financial costs of services to treat the affected individuals, including youth justice services, courts, prison services, social services, foster homes, psychiatric services, accident, and emergency services, alcohol and drug misuse services, in addition to unemployment and other required state benefits.

Prevention and management of EBD are not easy and it requires an integrated multidisciplinary effort by healthcare providers at different levels to be involved in the assessment, prevention, and management of affected individuals, and also to provide social, economic, and psycho-emotional support to the affected families. This is a very crucial topic for developing countries where the most importance is given to children and youth community.

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## References

1. CT.gov/Department of Education. [Online]. Available from: https://portal.ct.gov/SDE/Publications/Identifying-and-Educating-Students-with-Emotional-Disturbance/Definition-and-Interpretation.
2. World Health Organisation. World Health

Organisation. [Online].; 2018. Available from: https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response.

3. Ogundele MO. Behavioural and emotional disorders in childhood: A brief overview for paediatricians. World Journal of Clinical Pediatrics. 2018 February 08; 7(1): p. 9-26.
4. Leslie Briars TT. A Review of Pharmacological Management of Attention-Deficit/Hyperactivity Disorder. The Journal of Pediatric Pharmacology and Therapeutics. 2016 May-June ; Volume 21(Issue 3): p. 192–206.
5. A. Roy MRDUR. Are opioid antagonists effective in attenuating the core symptoms of autism spectrum conditions in children: a systematic review. Journal of Intellectual Disability Research. 2014 March 04 ; Volume 59(Issue 4): p. 293-306.
6. Merriam-webster.com/dictionary.
7. What-are-counseling-process. [Online]. [cited 2021 September 14. Available from: https://psichologyanswers.com/library/lecture/read/234309-what-are-counseling-process.
8. Lindgren S DA. Evidence-Based Interventions for Autism pectrum Disorders. [Online]. Available from: http://www.interventionsunlimited.com/editoruploads/files/Iowa%20DHS%20Autism%20Interventions%206-10-11.pdf..
9. Ollendick TH KN. Empirically supported treatments for children with phobic and anxiety disorders: current status. Journal of Clinical Child Psycholgy. 1998;: p. 156–167.
10. Liber JM DBGHHPP. School-based intervention for childhood disruptive behavior in disadvantaged settings: a randomized controlled trial with and without active teacher support. Journal of Consulting and Clinical Psychology. 2013; 81(6): p. 975–987.
11. 2006 NIfHaCE(.Parent-training/education programmes in the management of children with conduct disorders..; 2002 [cited 2021 Sepember 13. Available from: http://www.nice.org.uk/nicemedia/pdf/TA102guidance.pdf..
12. Boyle CEC&MH. Preschoolers at Risk for Attention-Deficit Hyperactivity Disorder and Oppositional Defiant Disorder: Family, Parenting, and Behavioral Correlates. Journal of Abnormal Child Psychology. 2002; 30: p. 555–569.
13. Frances Gardner JBIK. Randomised controlled trial of a parenting intervention in the voluntary sector for reducing child conduct problems: outcomes and mechanisms of change. Journal of Child Psychology Psychiatry. 2006 November ; 47(11): p. 1123-32.
14. Shaw DS DTSLGFAK. Randomized trial of a family-centered approach to the prevention of early conduct problems: 2-year effects of the family check-up in early childhood.. J Consult Clinical Psychology. 2006; 74: p. 1–9.
15. Funderburk BW ES. Parent-Child Interaction Therapy. In: History of Psychotherapy: Continuity and Change. 2nd ed. editors. NJVGFD, editor. Washington DC: American Psychological Association ; 2011.
16. Jennifer Nahrebeski. [Online]. [cited 2021 September 19. Available from: https://counselorj.com/social-skills-counseling-buffalo-ny/.
17. KL. L. Identifying and Supporting Students at Risk for Emotional and Behavioral Disorders within Multi-level Models: Data Driven Approaches to Conducting Secondary Interventions with an Academic Emphasis. Education & Treatment of Children. 2007; 30: p. 135–164.
18. Jo Winther ACAV. A pilot study of a school-based prevention and early intervention program to reduce oppositional defiant disorder/conduct disorder. Early Intervention Psychiatry. 2014 May 8;: p. 181-189.
19. By Robert Horner GSaCV. School-wide Positive Behavior Support: Investing in Student Success..
20. TERRY KOTTMAN PLSRS&JAPARS. Adlerian play therapy. 2019 September; 14(3): p. 12-13.
21. www.goodtherapy.org. [Online].; 2015 [cited 2021 September 14. Available from: https://www.goodtherapy.org/learn-about-therapy/types/expressive-arts-therapy.
22. Roohbakhsh ejtemaie M,aM,SN. Effectiveness of Aerobic Exercise on Stress, Anxiety and Depression in Children with Intractable Behavioral Disorders. Sport Psychology Studies. 2019; 26(7): p. 61-76.
23. Diamond Guy RJLS. Attachment-Based Family Therapy: A Review of the Empirical Support. Family Process. 2016; 55(3).
24. Jinal Patel MVMPJSPPFSBTGSaJRJ. A Descriptive Study to Assess the Knowledge Regarding Behavioral Disorders and Its Prevention among the Teachers of Primary School of Ahmedabad City, Gujarat State with a View to Develop A Pamphlet. J Nur Today. 2019 September 15; 11(1): p. 1-94.
25. El-Radhi AS. Management of common behaviour and mental health problems. British Journal of Nursing. 2015 June 12; 24(11).
26. G. Gururaj MV. National Mental Health Survey. Banglore: National Institute of Mental Health and Neuro Sciences, Ministry of Health and Family Welfare; 2015-16.
27. Dr G Gururaj DPBSea. Adolescent and youth health survey Himachal Pradesh report 2014-15. Bangalore : NIMHANS, Department of Epidemiology, , ; 2014-15.
28. Kyu HH PCWJBJBAea. Global and National Burden of Diseases and injuries among children and adolescents between 1990 and 2013: Findings from the global burden of disease 2013 study. JAMA Pediatric. 2016;: p. 267 87.

29. Shoba Srinath SCGGGSSDKSPB&NK. Epidemio logical study of child & adolescent psychiatric disorders in urban & rural areas of Bangalore, India. Indian J Med Res. 2005;: p. 122.

30. Rachel H.B. Mitchell VTJCASAIaBIG. Prevalence and Correlates of Disruptive Mood Dysregulation Disorder Among Adolescents with Bipolar Disorder. Journal of Child and Adolescent Psychopharmacology. 2016 March 23; 26.

31. Rajendra Sarda NK,JTHTJHPMSKJ. Prevalence of Psychiatric Disorders in Western U.P. Region. International Journal of Scientific Study. 2013 October - December.

32. S Malhotra BP. Prevalence of child and adolescent psychiatric disorders in India: A systematic review and meta-analysis. Child Adolesc Psychiatry Ment Health. 2014;: p. 8:22.

33. Malhotra S PB. Prevalence of child and adolescent psychiatric. Child Adolesc Psychiatry Ment Health. 2014;: p. 8:22.

34. Better Health Channel. [Online]. [cited 2021 September 04. Available from: https://www.betterhealth.vic.gov.au/health/healthyliving/behavioural-disorders-in-children.

35. Medicinal News Today. [Online].; 2021 [cited 2021 September 04. Available from: https://www.medicalnewstoday.com/articles/behavioral-disorders-in-children#summary.

36. Fertilitypedia. [Online]. [cited 2021 September 11. Available from: https://fertilitypedia.org/edu/symptoms/adhd.

37. LI LLJ. The effect of pediatric traumatic brain injury on behavioral outcomes: a systematic review. Developmental Medicine & Child Neurology. 2013; 55(1): p. 37–45.

38. Lumen learning. [Online]. [cited 2021 September 14. Available from: https://courses.lumenlearning.com/wm-abnormalpsych/chapter/oppositional-defiant-disorder/.

39. wikipedia.org. [Online]. [cited 2021 September 14. Available from: https://en.wikipedia.org/wiki/Attention_deficit_hyperactivity_disorder.

40. https://www.aacap.org/AACAP/Families_andPanic-Disorder-In-Children-And-Adolescents. [Online].; 2013 [cited 2021 September 19. Available from: https://www.aacap.org/AACAP/Families_and_Youth/Facts_for_Families/FFF-Guide/Panic-Disorder-In-Children-And-Adolescents-050.aspx.

41. Jose MJE. THE TAMILNADU DR M.G.R. MEDICAL UNIVERSITY, Chennai, Tamil Nadu. [Online].; 2016. Available from: http://repository-tnmgrmu.ac.in/2792/1/3005216edwinjosej.pdf.

# Psychiatric Disorders in the Perimenopause

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**Abstract**

Menopause is a daunting time in a women's life. In the medical literature, Menopause has been regularly referred to as a deficiency state and a condition to be actively medically managed. Perimenopause is defined by the WHO as the 2–8 years preceding menopause and the 1-year period after final menses, resulting from the loss of follicular activity. Perimenopause includes the period immediately prior to menopause and the first year after the final menstrual period (FMP). At this stage, the ovaries become resistant to the stimulatory effects of the pituitary gonadotropins luteinizing hormone (LH) and follicle stimulating hormone (FSH). Women, during the perimenopause often have irregular menses, heavier and longer menstrual periods and prolonged episodes of amenorrhea. In addition, the perimenopause is marked by vasomotor symptoms. There is undoubtedly a large group of women who experience psychological distress that coincides with the hormonal function of the climacteric, as demonstrated by the large population of women reporting psychological complaints at menopause clinics. Results from a multiethnic community based cohort study of premenopausal and perimenopausal women showed that mood symptoms and irritability are more likely to occur in perimenopausal than the premenopausal women. Recent epidemiologic studies have also documented an increased risk of first onset and recurrent major and minor depressions during the perimenopause as compared with the premenopause. This review paper is an attempt to highlight the problems of women in perimenopause and factors contributing to psychiatric morbidity during this time.

**Keywords:** Menopause; Perimenopause; Depression; Psychiatric morbidity.

## Introduction

Being a woman is special. Menarche, pregnancy, labour, motherhood and menopause are the series of transitions that every women undergoes from her birth until death. The above mentioned stages stand for different stages in her life which involves both physical and psychological changes. Menopause is considered a natural part of aging by most women although many are bothered by menopausal symptoms and very few women seek treatment. [1]

For many decades' women's health has been a global concern. As compared to men women have a more complex and stressful aging process, a consequence of hormonal changes which occur during

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the menopausal transition. The menopausal transition marks the end of women's reproductive function. It also makes them susceptible to various health problems such as cardiovascular diseases, osteoporosis and so on. [1] Though the vulnerability of middle aged women to major depression may be a myth, accumulating data suggests that the perimenopause is a period of increased risk for minor, but potentially impairing, depressive symptoms. [3] In both community- and clinic-based studies "psychological distress" or depressive symptoms are reported by perimenopausal women significantly more than either premenopausal or postmenopausal women. [3]

Majority of studies on perimenopausal women, despite wide variations in methodology, report some degrees of depression among subjects, indicating an increased susceptibility to depression during the perimenopause. This susceptibility has been ascribed to the effects of declining estrogen levels, subjective experience of somatic symptoms due to reduced hormonal levels, and/or the more frequent "exit" or "loss" events occurring during this stage of life.[4] In India the number of menopausal women is increasing as a consequence of increased life expectancy. Therefore, there is an urgent need to clear misconceptions and to increase awareness about menopause. This will also encourage affected women to seek medical treatment if warranted.[5]

## Definitions

Menopause which means cessation of menses is derived from Greek "meno" which means "month or menses", and "pausis" which means "pause". In 1821 the French physician Gardanne invented the term menopause. The term gradually came into wide circulation in medical circles in Europe by the middle of the 19th century. [6] Before the 1980's problems related to menopause were given scant attention. 'Research on the Menopause' a 1981 publication of the World Health Organization (WHO) highlighted the paucity of data on the age distribution of the menopause and its socio-cultural significance in the developing countries.[7] Perimenopause is defined as the 2–8 years preceding and the 1-year period after menopause, resulting from the loss of follicular activity.[8] The initiation of perimenopause is characterized by intense biological variability secondary to endocrinological and clinical changes.[9] The timing of menopause may be influenced by different factors such as living at high altitudes, cigarette smoking and history of depression. [9]

### *The Biopsychosocial Contexts of Midlife Women*

A woman's understanding of menopause is defined by the psychological, cultural and social setting in which she lives; her expectancies; and the reactions of significant otehrs in her life.[10]The experience of menopause by a women is largely shaped by social, psychological and cultural context in which she lives.

The Medical Context: In the medical literature, menopause has been regularly referred to as a state of deficiency and a condition to be actively medically managed.[10]

The Sexual Context: Outlook to midlife female sexuality have gathered at two opposing poles. One view is that due to loss of fertility women to lose their sexuality as well; they are neither sexually interested nor sexually attractive. The other view claims that females are sexual through midlife and until death.[10] The refusal to recognize or accept sexuality throughout the life span has deprived us of accurate information about women's feelings and behaviours.[11] It prevents middle aged women consulting doctors about their sexual problems.

*The Psychosocial Context:* The roles of perimenopausal women in society have changed drastically over recent decades. Many middle ages women are caregivers for their growing children and elderly relatives. More often than not women are the primary caregivers for family members, including their spouses, than are men. These women have a high incidence of depression. [10]

*The Cultural Context:* The meaning of menopause varies from subculture to subculture and family to family. The timing, nature, severity, and presumed importance of menopausal symptoms vary as well.[12] The experience of menopausal symptoms is closely related to a woman's expectations of symptoms.[10] Some cultures honour traditions in which women gain respect and support as they age, while in others females are side-lined as they age. In cultures where traditional ideas are denigrated in favour of newer lifestyles, older women are perceived as irrelevant, if not burdensome.[10]

*The Context of Body Image:* Dissatisfaction with their bodies is present in many women. There are opposing forces affecting the midlife women's body image. One is a preoccupation with decline and a dread of the loss of the youthful appearance that is synonymous with femininity.[10] The other is a newfound sense of acceptance of one's body and freedom from the need to follow accepted benchmarks of appearance.[10]

### *Age and Onset of Perimenopause*

Best available data on the age at onset of perimenopause comes from the Study of Women's Health Across the Nation (SWAN), based on 16,063 and 3,306 multi-ethnic women in a cross-sectional study and longitudinal study respectively, and the Massachusetts Women's Health Study (MWHS), a 5-year prospective, longitudinal, population-based study of 2,570 women.[12,13, 14]

In the perimenopausal period women often have heavier and longer menstrual periods, irregular menses, and prolonged periods of amenorrhea, VMS, decreased fertility, changes in sexual function, insomnia, and psychological changes. [13] The perimenopausal transition begins about 4 years before the FMP. The median age at onset of perimenopause and menopause is 47.5 years and 51.3 years (range: 47–55 years) respectively.[13]

Earlier natural menopause is associated with a history of heart disease; lower educational attainment; non-employment; and being separated, widowed, or divorced.[13] Dysfunction of the hypothalamic-pituitary-ovarian axis and an earlier decline of ovarian function is seen in women with longstanding depression as compared with women who are not depressed.[15]Women who are malnourished, thinner or vegetarians experience an earlier menopause. Women who are regular consumers of alcohol have a delayed menopause as a result of higher levels of estrogen. Prior use of oral contraceptives, parity and Japanese ethnicity are also associated with later age of natural menopause.[16]

## Culture & Menopause

Many women during perimenopause suffer from palpitations, hot flushes, vertigo, decrease in concentration, arthralgia which may be related not only the effect of decreasing levels of ovarian steroids but also changes in the social environment and cultural influences. Reviewing research among women in other societies Banger noted that the Rajput caste of women in India and Bantu women in South Africa attain a higher social position with more freedom on entering menopause. Such women complain of very few symptoms. [17.] Chinese and Japanese women report far fewer symptoms during the climacteric.[18,19] In societies which view menopause as a positive and not a negative event probably menopausal symptoms are less.[17]

*Culture and Menopause:* Definitions, Attitudes and Expectations.

The meaning of menopause varies greatly across cultures. In non-Western cultures menopause is often viewed more positively, in which menopause removes constraints and prohibitions imposed upon menstruating women.[20] Perceptions, expectations and attitudes are part of the psychosocial phenomena surrounding menopause.[20] Studies which have looked at how women's attitudes toward menopause change as they experience menopause, consistently show that attitudes towards menopause are much more positive among postmenopausal women as compared to premenopausal women.[20]

### *Endocrinology of the Menopausal Transition*

Changes in the ratio and concentration of the reproductive hormones begin many years before menopause.[13] Smoking, [21] low socioeconomic status,[22] ionizing radiation, medically treated depression, [15] and possibly galactose consumption[23] reduce the reproductive life span of women. In addition, as women age, their menstrual cycles increase in length, become more irregular (menstrual cycles are most regular during middle reproductive life), and are often anovulatory.[13]

Rising concentration of FSH and a declining concentration of inhibin B is the first detectable hormonal change of the perimenopause.[13] In the early perimenopausal phase, the concentration of LH remains in the normal range while FSH is increasing and inhibin B is decreasing.[13]Late in the perimenopause, LH concentrations increase slightly but at a slower rate than those of FSH. Concentrations of LH, FSH and decreased concentrations of estradiol and progesterone can be detected before ovarian function ceases permanently.[13]

Progesterone appears to have a negative effect on mood, mainly as a result of the occurrence of increased irritability and dysphoria; however, hypnotic, anxiolytic, and antiepileptic effects have also been described.[24] It has become increasingly evident that gonadal steroid hormones, such as progesterone, affect not only the hypothalamus but also the hippocampus and cortex.[25] Estrogen acts in concert with progesterone to regulate multiple brain functions, such as cognition and neuroprotection.[25]

*Psychiatric Morbidity Associated With Perimenopause:*

During perimenopause there is a significant increase in mood lability for women. The majority of research conducted on perimenopausal mental disorders has focused on unipolar depression, while some evidence points toward an exacerbation of bipolar mood symptoms and an increase in

schizophrenic psychosis during perimenopause.[4] Increased susceptibility may be due to the subjective experience of somatic symptoms resulting from this hormonal decline, neuroendocrine effects of declining estrogen levels, and/or the more frequent occurrence of "exit" or "loss" events for females during this period.[4] Other factors contributing to psychiatric morbidity in women entering perimenopause may be facing additional stress from dealing with adolescents, caring for an aging parent, onset of a major illness, career change, divorce or widowhood, or retirement.

### *Mood Disturbances*

Menopause fosters a unique biopsychosocial challenge. This phase of life does not necessarily herald depression but studies have identified the occurrence of irritability, poor mood and other depressive symptoms, and anxiety disorders are seen in some women.[26]

Prior depression and sensitivity to premenstrual and postpartum changes are possible risk factor. Sociocultural connotations, and not menopause itself, may be a direct cause of psychiatric symptoms. Lower education and socioeconomic status, role changes, stressors of aging may contribute to increased symptoms.[26] Depressive disorders and symptoms are frequent over a lifetime, especially in the middle-aged.[27]Major depression& minor depression are two very important sources of incapacity in developed countries. There is an 8% to 40% rate of depressive symptoms in middle-aged women. [27] Women are at higher risk for depression at specific points in their life when reproductive hormones fluctuate: in puberty, when estrogen is first rising; in the premenstrual phase; in pregnancy or the postpartum period and/or during the perimenopause [28] Some of the women are at greater risk than others, including midlife women with a history of depression, premenstrual syndrome, or postpartum depression.

However, even a woman with no history of depression is almost twice as likely to experience an onset of MDD when she enters perimenopause as women of the same age who remain premenopausal.[28] The high level of symptom overlap between perimenopausal symptoms and depression confounds the diagnosis of perimenopausal MDD.[28]

### *Genetic factors*

It is likely that the genetic factors interact with the environment so that perimenopausal depression occurs in some women and not in others. It has been reported that women as compared to women who have the long allele those who have a short allele (SS) of the cytosine-adenine repeat polymorphism of the estrogen receptor-beta gene have a seven times greater risk of vasomotor symptoms and 13 times greater one of psychological symptoms.[27]

### *Possible Mechanisms Underlying Mood Disorders Associated with the Perimenopause :*

The "domino theory" proposes that discomfort caused by somatic symptoms of the perimenopause provokes physical changes, which, in turn, affect mood stability.[29] Vasomotor symptoms (VMS) such as hot flushes and night sweats leads to sleep disturbance and an increasing level of irritability and fatigue.[29] The decrease in estrogen levels could also contribute to mood changes by affecting neuronal function (Estrogen withdrawal theory)[29] Neuronal function is impacted by estrogen through the serotonergic, dopaminergic, noradrenergic, cholinergic systems and γ-amino buytric acid.[29] Women with first onset depression during the perimenopause, do not show differences in in basal levels of gonadotropins, estrogens or testosterone. [30] This indicated that hormonal deficiency may not be the cause of perimenopausal depression.[29]

### *Risk Factors for the Development of Mood Disorders During the Perimenopause*

The MWHS which included women on hormonal replacement therapy (HRT), reported that a long perimenopausal period of at least 27 months was linked to an increased risk of depression.[29, 31] Thus the menopausal period, especially if it is prolonged, may be associated with an increased susceptibility for depression.[29]

### *Bipolar Mood Disorder*

The menopause may improve, aggravate, or not affect the course of affective symptoms in women with bipolar disorder.[32] One study of postmenopausal women with bipolar disorder reported that 20% of patients suffered severe emotional disturbances during perimenopause.[33]

### *Anxiety*

Studies of anxiety symptoms or distress in menopausal transition have reported inconsistent results which are similar to studies of depressive symptoms and the menopausal transition. Most of these studies failed to use standard scales assessment of anxiety and anxiety symptoms as part of symptom checklists to study perimenopausal symptoms.[34]

Symptoms vary from study to study and reflect those symptoms characterizing generalized anxiety, social phobia or panic disorder.[34]

### *Sexual Dysfunction*

Women in perimenopause, approximately 10–15% report no sexual desire and less than 5% report never, or almost never, experiencing arousal; about 20% report occasional and 5% frequenct dyspareunia.[35]

### *Non-hormonal factors contributing to sexual difficulties*

In midlife women who are highly educated, in a significant relationship, having depression, experiencing poor personal health, having concurrent urinary incontinence or who have a past history of sexual abuse; sexual difficulties are more commonly seen.For some women, home, work or relationship stress may be a factor.[35]Other causes related to sexual impairment during the perimenopause may be economic problems, bereavements, children leaving home, retirement, divorce and personal illness, or illness of their partner or close relative.Loss of self-esteem and poor body image due to weight gain can contribute to a woman's reluctance to engage in sexual activity.[35]

### *Hormonal factors influencing sexual function*

The hormonal changes in perimenopause adversely affect the woman's sexual interest and capacity to become aroused and/or achieve orgasm.[35] Women often complain of the vaginal dryness in relation to sexual activity during the perimenopause. This is a result of failure to be aroused and lubricate and probably not due to oestrogen insufficiency. There is a precipitous fall in oestrogen levels following menopause, but testosterone levels fall gradually from the mid reproductive years. Treatment of women in late reproductive period with testosterone resulted in increased arousal and vaginal lubrication. However, such studies have not been conducted in perimenopausal women.[35]

### *Schizophrenia*

In women, late-onset psychosis is much more prevalent than in men for reasons that are imperfectly understood.[36] Women, to some degree are protected against schizophrenia by their relatively high gonadal estrogen production between puberty and menopause, according to the estrogen hypothesis. With the onset of perimenopause and reduced oestrogen levels, women lose this protection. This explains their second peak of illness onset after age of 45.[36] Epidemiologic studies showing a second peak of schizophrenia onset in women around the age of menopause support this hypothesis.[36]

### *Cognitive Dysfunction*

KIWI (Kinmen Women-Health Investigation) and SWAN are the only published longitudinal studies assessing cognitive performance during perimenopause. They did not find reduction in test scores during yearly measurements.[37.] However, cognitive functions may be affected by the increases in depressive and anxiety symptoms that may accompany perimenopause. Decline in estradiol level may stem directly long term cognitive consequences of perimenopause. Estrogen protects against cognitive decline following cholinergic reduction in middle aged women. Studies suggest that at midlife, the loss of estrogen results in changes in serotonergic and cholinergic function which in turn contribute to mood problems and cognitive deficit.[37]

### *Eating Disorders*

In middle and late life eating disorders are getting more common but frequently go unrecognized. Restrictive dieting significant weight loss, preoccuation with body image and purging behaviours, such as utilizing appetite suppressants or drugs of abuse, excessive exercise, may herald overt or subclinical eating disorder in middle-aged or elderly patients.[38.]

Drive for thinness and excessive dieting may be the harbinger of an eating disorder in the older woman. Significant weight loss may often present itself in clinical depressed patients. Both anorexic patients and depressed patients complain of having poor concentration, memory difficulties, anhedonia, low energy and other preoccupations[38] Comprehensive physical examination in all eating disorder patients who present in middle or later life should be done to rule out physiological problems associated with the eating disorder (e.g. electrolyte imbalance, pancreatitis). Diabetes mellitus, substance abuse, malignancy and infection must all be ruled out as a cause of weight loss and/or appetite disturbance.[38]

### *Sleep Disturbances*

Initial insomnia is a major symptom of menopause. During menopause 25% to 50% of women report sleep disturbances. Arousals and disruption of sleep architecture is associated with VMS.

### *Insomnia and Depression*

Mood disorders are associated with menopause. Sleep disruption has been associated with depression. The "domino" theory of sleep disruption proposes that sleep is disturbed by hot flashes or other menopause related reasons which results in insomnia and subsequently depression.[39] Hot flashes themselves could result in sleep disruption, an increased sensitivity to disrupting events or a loss of some other sleep maintaining quality of estrogen. The disruptions then can create insomnia.[39]

### *Sleep Disordered Breathing and Menopause*

Women have approximately 1/3 the frequency of sleep disordered breathing than men prior to menopause. Shortly after menopause this disparity drops for unclear reasons. Weight gain is common during menopause which leads to associated concomitant increase in neck circumference which adds to the development OSA.[39]

### *Other Sleep Disorders and Menopause*

The most significant sleep related disorders that are directly associated with menopause are insomnia, depression, sleep disordered breathing, however, other sleep disorders that may be affected secondarily. Restless legs syndrome (RLS) is not directly correlated with menopause, although the frequency of this disorder increases with age which very common and often is under-recognized for many years by the patient and physician. With the onset of menopause associated sleep disruption, a pre-existing disorder may become more evident.[39] In the perimenopausal period the loss of sleep efficiency and insomnia worsens pre-existing sleep problems. Phase delay or inadequate sleep syndrome patients may therefore suddenly seek out treatment or evaluation as part of the menopause transition.[39] Due to social or work requirements phase delay may be associated with inadequate sleep. With onset of menopause related insomnia and loss of sleep efficiency there may be exacerbation of pre-existing sleep inadequacies which results in patients need for more time in bed to attain restorative sleep.[39]

### *Factors Associated with Psychiatric Morbidity*

Although psychiatric morbidity encompasses multiple symptoms and disorders, individual studies typically focus on specific symptoms or disorders as outcomes. Variation in results may be due to differences in measures used to assess various outcomes.

### *Socio-demographic Factors*

Studies have indicated that in midlife women, higher risk for depressive and anxious symptoms is seen in women who are separated, widowed, or divorced and single as compared to women high school education or less, or financial strain.[34,40]

### *Life Stressors*

Psychosocial stress is referred to as environmental demands that tax or exceeds the resources of the individual.[79]Studies have reported inconsistent findings with respect to whether number of stressful events varies during menopausal transition and whether this may account for differences in rates of depression during menopausal transition. Stressful events may provoke depressive episodes but large majority of individuals who experience stressful situations or events do not become significantly depressed. A range of individual and social factors may explain differences in response to stress.[34]

### *Social Relations*

Inadequate social support among midlife women may be associated with depression, anxiety, and negative mood and in some cases, the association is independent of other relevant factors such as stressful life events.[34]

### *Vasomotor Symptoms*

The most prevalent symptoms during the menopausal transition and early postmenopause are hot flushes and night sweats which are consistently associated with negative mood symptoms.[40,41] which may affect quality of life among women with VMS.

The associations between negative mood symptoms and physical symptoms, including hot flushes and pain, for example, are bidirectional.[34] Negative affect can influence perception and reporting of physical symptoms and as noted above, the latter can lead to depressed and anxious symptoms and disorder.[34] The longitudinal studies of menopause and some preclinical studies suggest that anxious and depressive symptoms may induce disturbing or frequent vasomotor symptoms in some women.[34]

### *Health Behaviours, Physical Symptoms and Conditions*

High-risk health behaviours during midlife, like smoking, poor diet, inactivity, disturbed sleep and lack of adherence to medical regimens are often associated with depression and anxiety. Medical

illnesses including arthritis, diabetes and cardiovascular conditions are also associated with depression and anxiety disorders. Studies have documented significant associations between physical symptoms in midlife women and depressive and anxious symptoms) [34,41]

### *Psychiatric History*

A past history of psychiatric disorders is the best predictor of psychiatric disorders during perimenopause.[34,42] Prospective studies of middle-aged premenopausal and early perimenopausal women have found that a history of an anxiety disorder or depressive disorder was a significant predictor of incident major depression, stressful events, and role functioning.[43]

## Conclusion

Perimenopause is the period preceding and following menopause. The gradual decline in estrogen is accompanied by physical symptoms, physiological changes and psychiatric disorders. Studies strongly suggest an association between perimenopause and depression.

There is a need to carry out prospective studies to estimate the temporal association between hormonal changes with physical and mood symptoms during perimenopause.

## References


1. Nusrat N, Nishat Z, Gulfareen H, Munir, Aftab, Naeem Asia. Knowledge, Attitude and Experience of Menopause. J Ayub Med Coll Abbottabad 2008;20:56-9.
2. Mishra S.K. Menopausal transition & postmenopausal health problems: a review on its bio cultural perspectives. Health 2011;3:233-37.
3. Szoeke C, Coulson M, Campbell S, Dennerstein L; WHAP Investigators. Cohort profile: Women's Healthy Ageing Project (WHAP) - a longitudinal prospective study of Australian women since 1990. Womens Midlife Health. 2016;2:5.
4. Natalie Rasgon, Stephanie Shelton and Uriel Halbreich, Perimenopausal Mental Disorders: Epidemiology and Phenomenology CNS Spectrums 2005: 10 (6): 471-478.
5. Sharma S. Tandon V.R. Mahajan A. Menopausal Symptoms in Urban Women. JK Science 2007;9:13-17.
6. Melby MK, Lock M, Kaufert P. Culture and symptom reporting at menopause. Hum Reprod Update. 2005;11(5):495-512.
7. Khan CGH, Hallad JS. Age at Menopause and Menopausal Transition: Perspectives of Indian Rural Women. Paper presented at: European Population Conference;2006 June 21-24; Liverpool U.K.
8. World Health Organization. Research on the menopause in the 1990s. Report of a WHO scientific group, WHO Technical Report Series, 886. Geneva: World Health Organization. 1996.
9. Soares CN, Cohen LS. The perimenopause, depressive disorders, and hormonal variability. Sao Paulo Med J. 2001;119:78-83.
10. Stotland N.L. Menopause A Mental Health Practioners Guide. 1st edition. Washington: American Psychiatric Publishing 2005.
11. Kingsberg SA. The impact of aging on sexual function in women and their partners. Arch Sex Behav 2002:31:431–37.
12. Avis NE, Stellato R, Crawford S, Bromberger J, Ganz P, Cain, V, et al. Is there a menopausal syndrome? Menopausal status and symptoms across racial/ ethnic groups. Soc Sci Med 2001;52:345-56.
13. Baram D.A. Menopause A Mental Health Practioners Guide. 1st edition. Washington: American Psychiatric Publishing 2005. pp:15-21.
14. Santoro N: What a SWAN can teach us about menopause. Contemp Ob Gyn 2004;49:69– 79.
15. Harlow BL, Wise LA, Otto MW, Soares CN, Cohen LS: Depression and its influence on reproductive endocrine and menstrual cycle markers associated with perimenopause: the Harvard Study of Moods and Cycles. Arch Gen Psychiatry 2003;60:29–36.
16. Gold EB, Bromberger J, Crawford S, et al: Factors associated with age at natural menopause in a multi-racial/ ethnic sample of midlife women. Am J Epidemiol 2001;153:865– 874.
17. Banger M. Affective Syndrome during perimenopause. Maturitas. 2002;41:13-18.
18. Lock M. Ambiguities of aging: Japanese experience and perception of menopause. Cult Med Psychiatry. 1986;10:23-46.
19. Jin F, Tao M, Teng Y, Shao H, Li C, Mills E. Knowledge and attitude towards menopause and hormone replacement therapy in Chinese women. Gynecol Obstet Invest. 2015;79(1):40-5.
20. Avis NE, Crawford S. Cultural Differences in Symptoms and Attitudes toward Menopause. Menopause Management. 2008;17(3):8-13.
21. Santoro N, Crawford SL, El Khoudary SR, Allshouse AA, Burnett-Bowie SA, Finkelstein J, Derby C, Matthews K, Kravitz HM, Harlow SD, Greendale GA, Gold EB, Kazlauskaite R, McConnell D, Neal-Perry G, Pavlovic J, Randolph J, Weiss G, Chen HY, Lasley B. Menstrual Cycle Hormone Changes in Women Traversing Menopause: Study of Women's Health Across the Nation. J Clin Endocrinol Metab. 2017;102(7):2218-2229.

22. Pakarinen M, Raitanen J, Kaaja R, Luoto R. Secular trend in the menopausal age in Finland 1997-2007 and correlation with socioeconomic, reproductive and lifestyle factors. Maturitas. 2010;66(4):417-22.
23. Cooper GS, Hulka BS, Baird DD, et al: Galactose consumption, metabolism, and follicle-stimulating hormone concentrations in women of late reproductive age. Fertil Steril 1994;62:1168–75.
24. Soares C.N, Steiner M, Prouty M. Menopause A Mental Health Practioners Guide. 1st edition. United States. American Psychiatric Publishing 2005. p:42-3
25. Brinton.R.D, Thompson R.F., Foy M.R., Baudry M, Wang J., Finch C.E., Morgan T.E., Christian J. Pike C.J., Mack W.J , Stanczyk F.Z , Nilsen J. Progesterone receptors: Form and function in brain. Frontiers in Neuroendocrinology 2008;29:313–39/.
26. Lolak S, Rashid N, Wise TN. Interface of Women's mental and reproductive health. Curr Psychiatry Rep 2005;7:220-7.
27. Garcia-Potilla MP. Depression and perimenopause: a review. Actas Esp Psiquiatr 2009;37:213-21.
28. Wise DD, Felker A, Stahl SM. Tailoring Treatment of Depression for Women Across the Reproductive Lifecycle: The Importance of Pregnancy, Vasomotor Symptoms, and Other Estrogen-Related Events in Psychopharmacology. CNS Spectr 2008;13:647-62.
29. Feld J, Halbreich U, Karkun S. The Association of Perimenopausal Mood Disorders with Other Reproductive related disorders. CNS Spectrums 2005;10;461-70.
30. Schmidt PJ, Murphy JH, Haq N, Danaceau MA, St Clair L. Basal plasma hormone levels in depressed perimenopausal women. Psychoneuroendocrinology 2002;27:907-20.
31. Rapkin AJ, Mikacich JA, Moatakef-Imani B. Reproductive mood disorders. Primary Psychiatry. 2003;10:31-40.
32. Marangell LB. Women and bipolar disorder. Dialogues un Clinical Neuroscience 2008;10:229-38.
33. Blehar, M.C., DePaulo J.R. Jr., Gershon, E.S., Reich, T., Simpson, S.G., Nurnberger, J.I. Jr. Women with bipolar disorder: findings from the NIMH Genetics Initiative sample. Psychopharmacology Bulletin 1998;34: 239-43.
34. Soares CN, Warren M. The Menopausal Transition. Interface between Gynecology and Psychiatry. Key Issues in Mental Health. Basel, Karger, 2009;175:50–65.
35. Davis SR, Jane F. Sex and Perimenopause. Aust Fam Physician 2011;40:274-8.
36. Seeman MV. Psychosis in women: Consider midlife medical and psychological triggers. Current Psychiatry 2010;9:64-76.
37. Greendale GA, Derby CA, Maki PM. Perimenopause and cognition. Obstet Gynecol Clin N Am 2011;38:519-35.
38. Zerbe K.J. Eating Disorders in Middle and Late Life: A Neglected Problem. Clinical Focus Primary Psychiatry 2003;10:76-8.
39. Eichling P.S. Sahni J. Menopause Related Sleep Disorders Journal of Clinical Sleep Medicine 2005;1:291-300.
40. Bromberger JT, Assmann SF, Avis NE, Schocken M, Kravitz HM, Cordal A: Persistent mood symptoms in a multiethnic community cohort of pre- and perimenopausal women. Am J Epidemiol 2003;158:347–56.
41. Bromberger JT, Matthews KA, Schott LL: Depressive symptoms during the menopausal transition: the Study of Women's Health Across the Nation (SWAN). J Affect Disord 2007;103:267–72.
42. Jagtap BL, Prasad B, Chaudhury S. Psychiatric morbidity in perimenopausal women. Ind Psychiatry J. 2016;25:86-92.
43. Bromberger JT, Kravitz HM, Matthews K, Youk A, Brown C, Feng W. Predictors of first lifetime episodes of major depression in midlife women. Psychol Med 2009;39:55-64.

# Subject Index

# Author Index

# Guidelines for Authors



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The text of observational and experimental articles should be divided into sections with the headings: Introduction, Methods, Results, Discussion, References, Tables, Figures, Figure legends, and Acknowledgment. Do not make subheadings in these sections.

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The title page should carry

1) Type of manuscript (e.g. Original article, Review article, Case Report)

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The second page should carry the full title of the manuscript and an abstract (of no more than 150 words for case reports, brief reports and 250 words for original articles). The abstract should be structured and state the Context (Background), Aims, Settings and Design, Methods and Materials, Statistical analysis used, Results and Conclusions. Below the abstract should provide 3 to 10 keywords.

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State the background of the study and purpose of the study and summarize the rationale for the study or observation.

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The methods section should include only information that was available at the time the plan or protocol for the study was written such as study approach, design, type of sample, sample size, sampling technique, setting of the study, description of data collection tools and methods; all information obtained during the conduct of the study belongs in the Results section.

Reports of randomized clinical trials should be based on the CONSORT Statement (http:// www. consort-statement. org). When reporting experiments on human subjects, indicate whether the procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional or regional) and with the Helsinki Declaration of 1975, as revised in 2000 (available at http://www.wma. net/e/policy/l7-c_e.html).

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Present your results in logical sequence in the text, tables, and illustrations, giving the main or most important findings first. Do not repeat in the text all the data in the tables or illustrations; emphasize or summarize only important observations. Extra or supplementary materials and technical details can be placed in an appendix where it will be accessible but will not interrupt the flow of the text; alternatively, it can be published only in the electronic version of the journal.

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Include summary of key findings (primary outcome measures, secondary outcome measures, results as they relate to a prior hypothesis); Strengths and limitations of the study (study question, study design, data collection, analysis and interpretation); Interpretation and implications in the context of the totality of evidence (is there a systematic review to refer to, if not, could one be reasonably done here and now?, What this study adds to the available evidence, effects on patient care and health policy, possible mechanisms)? Controversies raised by this study; and Future research directions (for this particular research collaboration, underlying mechanisms, clinical research). Do not repeat in detail data or other material given in the Introduction or the Results section.

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**Standard journal article**

[1] Flink H, Tegelberg Å, Thörn M, Lagerlöf F. Effect of oral iron supplementation on unstimulated salivary flow rate: A randomized, double-blind, placebo-controlled trial. J Oral Pathol Med 2006; 35: 540-7.

[2] Twetman S, Axelsson S, Dahlgren H, Holm AK, Källestål C, Lagerlöf F, et al. Caries-preventive effect of fluoride toothpaste: A systematic review. Acta Odontol Scand 2003; 61: 347-55.

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[3] Fleischer W, Reimer K. Povidone iodine antisepsis. State of the art. Dermatology 1997; 195 Suppl 2: 3-9.

**Corporate (collective) author**

[4] American Academy of Periodontology. Sonic and ultrasonic scalers in periodontics. J Periodontol 2000; 71: 1792-801.

**Unpublished article**

[5] Garoushi S, Lassila LV, Tezvergil A, Vallittu PK. Static and fatigue compression test for particulate filler composite resin with fiber-reinforced composite substructure. Dent Mater 2006.

**Personal author(s)**

[6] Hosmer D, Lemeshow S. Applied logistic regression, 2nd edn. New York: Wiley-Interscience; 2000.

**Chapter in book**

[7] Nauntofte B, Tenovuo J, Lagerlöf F. Secretion and composition of saliva. In: Fejerskov O,

Kidd EAM, editors. Dental caries: The disease and its clinical management. Oxford: Blackwell Munksgaard; 2003. p. 7-27.

**No author given**

[8] World Health Organization. Oral health surveys - basic methods, 4th edn. Geneva: World Health Organization; 1997.

**Reference from electronic media**

[9] National Statistics Online—Trends in suicide by method in England and Wales, 1979-2001. www.statistics.gov.uk/downloads/theme_health/HSQ20.pdf (accessed Jan 24, 2005): 7-18. Only verified references against the original documents should be cited. Authors are responsible for the accuracy and completeness of their references and for correct text citation. The number of reference should be kept limited to 20 in case of major communications and 10 for short communications.

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