Supplementary Table S1: **Systematic review: 33 included studies**

| No. | Authors | Aims (focus) | Study design | Country | Population | Measures | Outcome |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 24 | Ballenger-Browning KK, Schmitz KJ, Rothacker JA, et al. (2011) | Levels & predictors of BURNOUT | Quantitative  | US | Psychiatrists (13) & Psychiatry trainees (13) | Maslach Burnout Inventory, Treatment Beliefs Survey, demographics, (including active duty/civilian status, no. combat deployments, yrs. of clinical experience) | Being female, employed as a psychiatrist and working a greater number of hours predicted emotional exhaustion. Treating a greater number of patients per week decreased feelings of personal accomplishment. |
| 25 | Bressi C, Porcellana M, Gambini O, et al. (2009) | Prevalence of BURNOUT & JOB SATISFACTION | Quantitative  | ITALY | Psychiatrists (81) | Maslach Burnout Inventory, General Health Questionnaire, job satisfaction measure | Almost half experience high emotional exhaustion, nearly 40% high depersonalisation, and 22% low levels of personal accomplishment. Contributory job related factors included excessive workload, inadequacy of facilities, lack of funds, working with patients perceived as aggressive and demanding. Accomplishment was related to job satisfaction and relationship with superiors. |
| 26 | Caldwell BA, Gill KJ, Fitzgerald E, Sclafani M, Grandison P. (2006) | BURNOUT & ward atmosphere | Quantitative  | US | Psychiatrists & psychologists (13) from 79 members of psychiatry facility | Maslach Burnout Inventory, Nursing Work Index (measure supportive environment), Ward Atmosphere Scale | Psychiatrists and psychologists reported less burnout than the rest of the hospital team members. Maybe due to engaging in more discrete activities on the ward (i.e. group therapy, clinical rounds, consultation) and spending less time on the ward. Forensic unit staff suffered less burnout than other units maybe due to struggle with commonly shared moral and ethical challenges thus helping them to better maintain professional boundaries, engage in ongoing reflection, and develop self-awareness. |
| 27 | Chiorean A, Mihai A, Stoica M, Marculescu I, Papava I. (2007) | Work STRESS and improvements | Quantitative  | ROMANIA | Psychiatrists (144) | 30 items questionnaire based on feedback and literature review | Major causes of stress are: ‘the lack of space in the clinic’, ‘insufficient equipment’, ‘lack of drugs’. Stress level can be reduced through economical and administrative measures. |
| 28 | Cunningham W, Cookson T. (2009) | COUNSELLING for stress | Quantitative  | NEW ZEALAND | Psychiatrist (1) from 24 doctors  | Questionnaire (usage, personal demographics & diagnoses and what was valued about the service); Attitudes via a Likert scale on whether service contributed with remaining in or returning to work | Those who used more sessions had more significant mental health diagnoses. Confidentiality, being able to choose their provider, and independence of their provider, considered important by the majority. The majority also thought the service contributed extremely or significantly to remaining or returning to work. |
| 29 | Devilly GJ, Wright R, Varker T. (2009) | Relations between TRAUMA & BURNOUT  | Quantitative  | AUSTRALIA | Psychiatrist (1) from 152 MHPs | Anxiety and Stress Scales (DASS-21) (Depression); the Copenhagen Burnout Inventory; the Secondary Traumatic Stress Scale; the TSI Belief Scale Revision L (TSI-BSL); the Interpersonal Reactivity Index (IRI); the 12-item Interpersonal Support Evaluation List (ISEL-12); and indexes measuring work stress and victimisation | Work-related stressors (i.e. burnout and new psychiatrists) best predicted therapist distress. Beliefs about one’s safety also contributed to therapist distress, suggests that both workplace and individual factors contribute to the development of affective distress among therapists. |
| 30 | Falchi V, Brown H, Burnett F. (2009) | BURNOUT & JOB SATISFACTION after New Ways of Working initiative | Quantitative  | UK | MHPs (14), psychiatrists numbers unspecified | Maslach Burnout Inventory, and the Hertfordshire Mental Health Team Member Questionnaire to measure job satisfaction/team functioning | After the introduction of New Ways of Working in order to extend existing staff roles and distribute responsibilities, Emotional exhaustion and Depersonalisation lessened over 2 years and personal accomplishment increased. Job satisfaction also increased. No changes however in functioning of the team. |
| 31 | Fischer J, Kumar S, Hatcher S. (2007) | BURNOUT – causative & protective factors | Qualitative  | NEW ZEALAND | Psychiatrists (12); 6 scoring low on MBI (0–16); 6 scoring high on MBI (>27) | 1 h taped interview, manually analysed using a grounded theory approach | Both groups showed no difference with regard to their views on the causes and protective factors of burnout. The most emphasised concern was overwork. |
| 32 | Harrison T, Cook C, Robertson M, Willey J. (2006) | Work STRESS – recognising effects | Qualitative  | ???? | Psychiatrist (1) | First author account of own experience, supplemented by accounts from his secretary and wife | Consultants training should include an understanding of how work-related stress arises, overcoming resistance to accepting its relevance, self-management techniques, recognition of symptoms, seeking appropriate treatment and planning appropriate work changes. |
| 33 | Heponiemi T, Aalto AM, Puttonen S, Vanska J, Elovainio M. (2014) | Differences in STRESS factors, JOB SATISFACTION, RESOURCES  | Quantitative  | FINLAND | Psychiatrists (305) from 3826 physicians  | Stress – Likert scale; job resources (items from Karasek’s Job Content Questionnaire); Well-being (items from GHQ-9); Job satisfaction (items from Hackman and Oldham’s Job diagnostics survey); Optimism (items from Life Orientation Test) | Psychiatrists had higher levels of patient-related stress, job control (positive), team climate(better) and distress compared with other specialities. Increased control over job and participation in work organisation need to be considered as important factors for well-being. |
| 34 | Johnson S, Osborn DP, Araya R, et al. (2012) | WELL-BEING & JOB SATISFACTION | Quantitative  | UK | Psychiatrists (135) from 2258 MHPs | Maslach Burnout Inventory, Job related affective well-being scale, 2004 workplace employment relations survey combined with NHS staff survey, General Health Questionnaire, Job Involvement scale | Higher levels burnout in CMHT and acute general wards. Emotional strain associated with job demands. Demands and control varied widely with profession. Psychiatrists less emotional strain than some other professions but not when adjusted for job demands, support and control. |
| 35 | Kealey D, Halli P, Ogrodniczuk JS, et al. (2016) | BUROUNT symptoms | Quantitative  | CANADA | Psychiatry residents (400) | 43-item questionnaire (assessing personal psychotherapy, burnout symptoms, appraisal of empathic functioning and strategies for coping with stress from patient encounters) | Burnout in one fifth trainees, with empathy being compromised when reporting symptoms of burnout. Also less likely to consult with supervisors following stressful patient encounter and more likely to use unhealthy coping mechanisms. |
| 36 | Korkeila JA, Toyry S, Kumpulainen K, et al. (2003)  | Differences in BURNOUT & other health factors | Quantitative  | FINLAND | CAMHS Psychiatrists (48) & Adult Psychiatrists (170) from 3313 physicians | Maslach Burnout Inventory, Health status/use of services questionnaire | Psychiatrists and child psychiatrists reported burnout, the threat of severe burnout, depression, the use of psychotropics, and a mental disorder more often than other physicians. Protective measures i.e. training in communication and management, informal networks, staff support groups, rehabilitation services, should be considered for these groups. |
| 37 | Kumar S, Hatcher S, Dutu G, Fischer J, Ma’u E. (2011) | BURNOUT & causes of STRESS | Quantitative  | ???? | Psychiatrists (131) | Sources of Stress Questionnaire (SOS-Q) | Significant for onset of burnout: Too much work, working long hours, an aggressive administrative environment and lack of support from management. Former two associated with high emotional exhaustion. Job satisfaction, supportive colleagues and non-workplace factors (taking holidays, recreational activities and hobbies, support from partner) were all protective factors. |
| 38 | Kumar S, Sinha P, Dutu G. (2013) | Does JOB DIAGNOSTIC SURVEY predict MASLACH BURNOUT INVENTORY? | Quantitative  | NEW ZEALAND | Psychiatrists (233) | Maslach Burnout Inventory, the Job Diagnostic Survey, a socio-demographic questionnaire | While depersonalisation increased and personal accomplishment reduced, emotional exhaustion (EE) stayed the same, suggesting that the latter is the most stable dimension of burnout. Low scores on skill variety, task identity correlated with high scores in DP and EE; and task significance was correlated with high PA, and a low feedback score correlated with high DP and low PA. Paying attention to different aspects of job satisfaction may help in developing interventions. For example, those who are experiencing high EE may be encouraged to introduce variety into their practice i.e. combination of teaching, administration and clinical work |
| 39 | Kumar S, Fisher J, Robinson E, et al. (2007) | Prevalence of BURNOUT & JOB SATISFACTION | Quantitative  | NEW ZEALAND | Psychiatrists (239) | Maslach Burnout Inventory, Job Diagnostic Survey, socio-demographic questionnaire | High prevalence of burnout noted. Indeed, majority described moderate to severely high levels of emotional exhaustion and personal accomplishment. Possible that the latter is compensating for the former. Former doesn’t appear to affect patient treatment given low levels of depersonalisation and high job satisfaction. Yet more than half dissatisfied with feedback on performance. Obtaining regular feedback from a variety of sources may help. |
| 40 | Littlewood S. (2003) | RECRUITMENT, RETENTION, JOB SATISFACTION, STRESS | Quantitative  | UK & EIRE | CAMHS Psychiatrists (333) | Job Satisfaction and Job Stress Questionnaire incorporating items from Job Diagnostic Survey, Maslach Burnout Inventory and General Health Questionnaire (GHQ-28) | Majority identified excessive workload, lack of resources in other agencies, conflicting demands and difficulties in arranging beds as the main sources of stress. Without a supportive colleague more likely to be dissatisfied with job; to need to take time off due to work pressure; to regret choosing a career in child psychiatry; and to suffer emotional exhaustion and psychological distress. Adaptive strategies include prioritising workload, keeping a boundary between home and work and using friends and family for personal support. Introduction of job plans and regular review provides a forum for individuals to discuss their work and to ensure a manageable workload; as well as vibrant input into undergraduate and postgraduate training necessary to attract more into the profession. |
| 41 | Mache S, Bernburg, M, et al. (2016) | Evaluate SELF CARE INTERVENTION (skills, CBT, counselling) | Intervention | ???? | Intervention – Psychiatrists (37); Control – Psychiatrists (35) | Measured at baseline and at end (after 3 months, then 6 months), via the Perceived Stress Questionnaire, the Copenhagen Psychosocial Questionnaire, Brief Resilient Coping Scale, Self-Efficacy Scale and the Quality of Relationship Inventory | Intervention group – significant reduction in perceived job stress, improvements in job satisfaction, resilience, self-efficacy, and improvement in physician-patient relations. Suggests that self-care skill training may have a positive role to play in enhancing protective skills and work-related distress. |
| 42 | McKensey A, Sullivan L. (2016) | BALINT GROUP evaluation | Mixed – Pilot & Quantitative | AUSTRALIA | Psychiatry trainees (9) | Written feedback | Group participation considered positive and worthwhile experience. Participants felt more supported, could manage stress better, subsequently showed more empathy for their patients, and deepened reflective activity. Competing service demands compromised cohesive group formation suggesting Balint group participation time should be protected. |
| 43 | Murdoch JM. (2007) | STRESS-BUSTING GROUP evaluation | Mixed – Pilot & Quantitative | UK | Pilot – Psychiatrists (18); Survey – Psychiatrists (25) | Scale measuring functions/format of stress-busting group. Work-related stress scale | Majority rated stress levels as moderate or severe, most commonly due to high-risk or difficult patients. Talking to colleagues for informal peer support and catharsis was most common way of reducing stress. Large majority found the ‘stress-busting’ groups to be helpful, with ‘problem-solving with ventilation of stresses’ being most successful format. |
| 44 | Neves S, Vieira F, et al. (2016) | BURNOUT and psychopathology | Quantitative  | PORTUGAL | Psychiatrists (mostly female), numbers unspecified | Suicide Prevention Consultation; MBI-Maslach Burnout Inventory and QIS-Suicide Ideation Questionnaire | High burnout correlated with high scores of emotional exhaustion, depersonalisation and low scores of personal fulfilment. Targeting early interventions in this group may be beneficial. |
| 45 | Olarte S. (2004) | STRESS & JOB SATISFACTION | Quantitative  | US & CANADA | Female Psychiatrists (483) | 7-point Likert scale for demographics, parents’ education, parents’ employment and child care arrangements, career choices, time spent in career related activities, time spent in leisure activities, and childcare arrangements | Without children and with academic affiliations reported the most stress. If able to combine children, intimate relationships, and academic involvement are most satisfied. |
| 46 | Priebe S, Fakhoury WK, et al. (2005)  | MORALE | Quantitative  | GERMANY & UK | Psychiatrists (30), from UK; Psychiatrists (30) from Germany. From 189 MHPs  | Team Identity Scale, Minnesota Job Satisfaction Scale, Maslach Burnout Inventory | Being a psychiatrist predicted higher team identity, and being a social worker linked with higher burnout and lower job satisfaction, and ultimately low morale, particularly if from London. Overall, London predicted higher burnout, lower job satisfaction and lower team identity. Training in time management and team communication skills may offset the dislike for bureaucracy. |
| 47 | Rathod S, Mistry M, Ibbotson B, Kingdon D. (2011) | Effects of NHS CHANGES on personal and working lives | Quantitative  | UK | Psychiatrists (449) | The Stress Questionnaire | Creation of functional teams, CRHT as gatekeepers, working in multi- disciplinary teams, introduction of generic/nurse-led services, and creation of separate in-patient and community roles have all reduced stress. Seeking support, confiding in colleagues and socialising seemed to be positive coping strategies. Concerns about future consultant posts and introduction of Modernising Medical Careers were sources of stress. Worrying, carrying on as if everything was fine and driving themselves harder seemed to be negative coping strategies. Increasing involvement of psychiatrists in leadership may be of benefit in reducing adverse effects. |
| 48 | Rey JM, Walter, G, Giuffrida M. (2004) | JOB SATISFACTION & STRESS | Quantitative  | AUSTRALIA | Psychiatrists (1039) | Stress, job satisfaction questionnaires | Large majority proud and satisfied with work largely due to helping patients get better. Reasons for dissatisfaction for private psychiatrists was litigation issues, and for public psychiatrists, lack of beds). Dissatisfied psychiatrists more likely to be stressed and, overall, psychiatrists were more pessimistic about the future. |
| 49 | Rotstein S, Jenkins K. (2017) | CAREER SATISFACTION & WORK STRESS | Quantitative  | AUSTRALIA & NEW ZEALAND | Psychiatrists & psychiatry trainees (1051) | Survey??? | Large majority satisfied with their career. But ‘too much work, in too little time’ was considered a key stressor by a third. Examinations, prospect of revalidation and training hurdles moderately/extremely stressful by over half. |
| 50 | Ruskin R, Sakinofsky I, Bagby R, Dickens S, Sousa G. (2004) | PATIENT SUICIDE & SUPPORT NETWORKS | Quantitative  | CANADA | Graduates/Psychiatry trainees (239) | 25-item checklist of symptoms of acute/post-traumatic stress disorder, Impact of event scale, Social relationships scale | Majority can cope but in small minority effects approach morbid level. Training programmes should support those who are particularly vulnerable and reduce social isolation from peer group. Formal and informal professional networks should heighten awareness and provide support |
| 51 | Sprang G, Clark JJ, Whitt-Woosley A. (2007) | BURNOUT, CAMPASSION FATIGUE & COMPASSION SATISFACTION | Quantitative  | ???? | Licensed/certified behavioural health providers (1121), psychiatrists numbers unspecified  | Professional Quality of Life Scale | Psychiatrists higher risk of compassion fatigue than non-medics, with females across all groups being more vulnerable to CF or burnout. The most rural providers reported increased levels of burnout. Specialised trauma training (increasing assessment and treatment skills, and peer support) relieve these factors and thus may serve as protective. |
| 52 | Strasburger LH, Miller PM, Commons ML, Gutheil TG, LaLlave J. (2003) | STRESS | Quantitative  | US | Forensic psychiatrists (372)  | 90-item stress-related scale and demographics | Overall,stress considered as low. Stressful aspects included fearing inability to defend opinion during cross-examination; fear of disclosing personal history; working with short deadlines; testifying while physically ill; and stress from a retaining attorney’s attempts to coerce an opinion. Awareness and preparation of such for trainees may help. |
| 53 | Vicentic S, Gasic MJ, Milovanovic A, et al. (2013) | BURNOUT – quality of life & emotional profile link | Quantitative  | ???? | Psychiatrists (60) & GPs (60) | General Health Questionnaire, Maslach Burnout Inventory, Quality of Life (QOL) and the Emotions Profile Index (EPI) | Quality of life higher for psychiatrist *v.* GPs. Overall burnout higher for women and those who struggling with coping with stress. |
| 54 | Volpe U, Luciano M, Palumbo C, et al. (2014) | BURNOUT & depressive symptoms | Quantitative  | ITALY | Early career Psychiatrists (70) & early career non-medical MHPs (70) | Maslach Burnout Inventory and the Beck Depression Inventory | Evidence of burnout but psychiatrists had significantly higher degree of emotional exhaustion and lower sense of personal accomplishment when compared with non-medical MHPs. But lower on depersonalisation and depressive symptoms. Need for psychological support and organisational strategies during early training |
| 55 | Walter G, Rey JM, Giuffrida M. (2003) | STRESS & JOB SATISFACTION | Quantitative  | AUSTRALIA | Psychiatry trainees (317) | Hours worked, PT or FT work, breaks in training, why psychiatry? Rate levels of stress and satisfaction | Large majority satisfied as psychiatry interesting, intellectually challenging and provides good prospects; however, was issues relating to resources available, decision-making, supervision, status/prestige associated with job. Increase in women numbers and ageing trainee workforce also need to be considered. |
| 56 | Yanchus NJ, Periard D, Osatuke K. (2017) | TURNOVER INTENTION & cognitive withdrawal  | Quantitative  | ???? | Psychiatrists (1276) from 10 997 MHPs | Civility, supervisory support, emotional exhaustion, psychological safety, job satisfaction, turnover intentions and plans | Workplace perceptions (e.g. civility – e.g. conflict resolution, diversity; autonomy; and psychological safety – e.g. willingness to bring up problems) important for job satisfaction and turnover intention. Indeed, civility is a key predictor of job satisfaction; having positive supervisory relations affected job satisfaction and turnover intention; and emotional exhaustion is positively related to turnover intention. |