Table 1: Included articles

Reference (Primary Author)	Year of study	Sample size and age range	Location	Study Design / methods	Qualitative or Quantitative	Research aim	Results
Ariyoshi (2009)	2000-2005	N= 98 women (mean age 41,2). The largest group in their 50s. 53,1% journalists, 26,5% admini-stration, 20,4% sales	Japan, a newspaper company	Evaluation of intervention with surveys and case studies	Mixed methods	Evaluate impact of health intervention for MS among employees at a newspaper company and to clarify the role of the occupational health nurse in promoting menopausal women's health.	After introduction of the health intervention a number of complains about MS reduced from 5 to 0; a number of women retiring while still employed reduced from 3 to 0. No control group was used.
Bariola et al. (2017)	2013-2014	N = 476 peri- and postmenopausal women (age range 40 - 75 yrs.) working in higher education sector	Australia	Survey	Quantitative	Associations between employment conditions, work-related stressors, and MS among peri- and postmenopausal working women.	Multivariable regression analysis showed that high supervisor support (β= -0.10, P=0.04), fulltime work (β= -0.11, P=0.02), and control over workplace temperature (β= -0.11, P=0.02) is independently associated with fewer MS.
Bolge et al. (2010)	2006	N=141, currently experiencing MS, esp. CINA: insomnia with night-time awakenings at least twice a week for more than a month. Compared to N=1,305 (without CINA).	USA	US National health and Wellness Survey, an annual cross-sectional study.	Quantitative	To quantify the burden associated with CINA among women with MS.	After adjustment for comorbidity and demographics: women with CINA had 0,1 (P = 0.041) more emergency department visits. Among women with MS employed full-time, those with CINA report greater impairments working (presenteeism; 17.3%, P G 0.001) and overall impairment (16.1%, P G 0.001) than those without insomnia.
DiBonaventura et al. (2012)	2005	N = 1,165 with depression in the last year. N = 2,467 without depression. All respondents are women between 40 and 64 years old, experiencing MS and hot flashes.	USA	US National Health and Wellness Survey, cross-sectional.	Quantitative	To examine effect of depression on health-related quality of life, work productivity, resource use and costs.	Significant differences in work productivity and costs between groups with and without depression: time missed from work, impairment while at work, the number of physician visits, emergency room visits, days in hospital past 6 months. Indirect costs per woman $ 3,066 higher than for women without depression; direct costs $ 1,075 higher for women with depression than for the group without depression.
Dillaway (2006)	2001	N = 61 menopausal women (age range 38 - 60 yrs.) from a	USA	In-depth-interviews & focus-groups	Qualitative	Filling gaps in the knowledge about age- and time-based conceptualisations of	Reliance on chronological age only hinders understanding of menopause and leads to limited treatment choices. Bodily symptoms are

		Midwestern state of the United States of America.				reproductive ageing and menopause.	not recognised by professionals as MS when women are 'too young', women's self-confidence is negatively influenced. The three-stages medical definition of reproductive aging do not match midlife women's complex experiences. Methodological issues when using chronological age for recruitment.
Evolahti et al. (2009)	2000-2002	N=107, 47-53 yrs.; women with ovarian cancer, breast cancer, Parkinson excluded.	Stockholm	Longitudinal	Survey and psychologic al interview	To characterise lipid profile of perimenopausal women in relation to psychosocial work environment.	Work control is a significant predictor of higher HDL (high density lipoprotein) cholesterol ($p<0.05$), lower LDL (low density lipoprotein) cholesterol/HDL cholesterol ratio ($p<0.01$). Age and not menopausal status was associated with lipid levels at baseline and follow-up. Use of HRT is a significant predictor of lower cholesterol.
Gartoulla et al. (2016)	2013-2014	N = 2,020 women (age range 40 - 65 yrs) were recruited from an established Australian database.	Australia	National cross-sectional survey	Quantitative	Association between VMS and self-reported WA, taking into account e.g. socio-demographics such as age, country of birth, occupation, ethnicity, relationship status, education.	81.5% good-excellent WAI score (score of 44); 18.5% had poor-moderate score (32) [odds ratio (OR) = 2.45, 95% CI 1.69–3.54]. Presence of VMS is significantly different among women with poor-moderate scores compared with the group with good-excellent scores: premenopausal women (p=0.01), perimenopausal (p=0.03), postmenopausal (p<0.001).
Geukes et al. (2012)	2009	N = 208 working women (age range 44 - 60 yrs.) in hospital and home care.	Municipality of Drachten & Leeuwarden, the Netherlands	Cross-sectional	Quantitative	Relationship between menopausal symptoms and WA.	Significant negative correlation between GCS-score and WAI-score. Stepwise linear regression model for WAI score on all GSC subscales showed that only the psychological score, somatic score and level of education likely predict total variance in WAI score.
Geukes et al. (2016)	2009 - 2012	N = 205 women (age range 44 - 60 yrs). Inclusion criteria were no earlier medical treatment for MS.	Municipality of Drachten & Leeuwarden, the Netherlands	Cross-sectional	Quantitative	Relationship between menopause and WA in women with severe MS.	Symptomatic women significantly higher total GCS scores and lower WAI scores than reference group; 8.4 times more likely to report low WA than their healthy counterparts.
Geukes et al. (2019)	not spec-ified	N= 31 first-time attendees of menopausal clinic.	The Netherlands	Retrospective cohort study: baseline and 3-9 months follow-up. 'Care as usual'	Quantitative	To pilot test the hypothesis that improvement of symptoms in women with severe MS is associated with improvement in self-perceived WA.	The majority of women (84%) reported low WA (WAI < 37 points) at baseline; 27 women reported higher WA at follow-up, although 61% of all women still had a WAI-score < 37 points. All women had fewer MS. Changes in GCS depression domain were significantly

				protocol, self-reporting data, WAI, GCS.			associated with changes in WAI (before adjusting the WAI op baseline).
Griffiths et al. (2013)	2013	N = 896 working women (age range 45–55 yrs.) in managerial and administrative occupations in 10 organisations.	UK: different occupations in 10 organisations	Survey	Quantitative	Identify the perceived effects of MS on working life among the working women in menopausal transition, and vice versa, and to provide recommendations for women, healthcare practitioners and employers.	Menopausal transition caused difficulties for some women at work: poor concentration, tiredness, poor memory, feeling low/depressed and less confidence. Hot flushes were particularly difficult. Some women felt work performance was negatively affected. Majority of women unwilling to disclose menopause-related health problems to line managers.
Griffiths et al. (2016)	N/A	N/A	N/A	Position statement of the European Menopause and Andropause Society	N/A	Awareness among employers about menopause; conditions for disclosure of the MS; adjustment of the workplace physical environment; reduction of work-related stress; flexibility at work; access to cold drinking water and sanitaria facilities.	N/A
Gujski et al. (2017)	2014-2016	N=300, age: 45-66	Institute of Rural Health in Lublin, Poland	Montreal Cognitive Assessment, CNC Vital Signs tests, Subjective Work Characteris-tics Question-naire.	Quantitative	Correlation between stress at work and results of cognitive functions amongst women at peri- and post-menopausal age performing intellectual work.	Early peri-menopausal and postmenopausal women show negative correlation between cognitive functions (simple attention, complex attention, reaction time and others) and stress. Late-perimenopausal women show positive correlation between cognitive functions (psychomotor speed, processing speed) and stress.
Hammam et al. (2011)	2011	N=131, age: 45-59	Zagazig Faculty of Medicine, Egypt	Women's Health Question-naire and semi-structured interviews.	Mixed-methods cross-sectional single group study.	To investigate the relationship between experience of the menopause and work and to examine the factors affecting how women cope, including disclosure of their status.	Symptoms affecting work: tiredness, sleep problems. Other: somatic, psychological, memory and concentration; few reported VMS. Work: extraordinary responsibilities, unpredictable/ long/inflexible working hours, discrimination, problems with colleagues/ supervisors, static postures. Less relevant: dealing with students/patients, wearing

							uniforms/ protective equipment; 27,5% disclosed status, 72,5% did not. Reasons not to: limited time/work overload, socio-cultural barriers. Coping: health promotion at work, improving working conditions, awareness among colleagues, etc.
Hardy et al. (2017)	2016	N = 137 peri- and postmenopausal working women (age range 45-65 yrs). Members of a trade union and professional association for family court and probation staff. Same sample as described in Hardy et al., 2018b.	UK: England, Wales and Northern Ireland.	Online questionnaire, incl. three open-ended questions.	Qualitative	Women's perspectives on what employers and managers should do and not do for female employees going through the menopause.	Inductive thematic analysis, three overarching themes: (1) employer/ managers awareness and (lack of) knowledge about menopause and way physical work environment might impact menopausal women; (2) importance of good communication skills and behaviours among employers/managers, e.g. empathic behaviour, conversational skills, avoidance of cliché-language, like 'ladies' problems'; (3) employer/managers actions, e.g. staff training, supportive policies in relation to sickness absence and flexible working hours.
Hardy et al. (2019b)	not available	N=98 line-managers at T0 pre-training (T-time point); evaluation at T1, i.e. immediate after de training N=62; T2, i.e. 4-weeks after training N=61.	3 large UK organisations, 1 public and 2 in the private sector.	Prospective pre-post evaluation of 30-min on-line training.	Qualitative and quantitative data, surey. Paired t-tests and McNemar tests; content analysis for qualitative data.	To develop and evaluate a 30-min online training for managers in order to improve knowledge, attitudes and confidence during conversations with women experiencing menopausal symptoms at work.	Over 90% respondents reported the training to be useful and recommended it to others.
Hardy et al. (2018a)	2016-2017	N = 124: n=60 allocated to SH-CBT; n=64 without therapy; average age 54; 70% white ethnicity. Inclusion factor: 10 or more HFNS a week.	UK, 6 public and 2 private organisations	A multicenter RCT	Quantitative	To examine the efficacy of a self-help cognitive behaviour therapy booklet on HFNS problem rating in connection to a work setting.	SH-CBT significantly reduced HFNS problem rating at 6 weeks and at 20 weeks. Significant improvement on levels of functioning conform WSAS compared to the group without therapy. Effects as e.g. absence days are not significant, but effects on presenteeism, according to Stanford Presenteeism Scale, measured at 20 weeks, are significant and approach a large effect size.
Hardy et al. (2019a)	2017	N=15, age: 45-60; recruited from de database of volunteers	UK	Semi-structured	Qualitative	To examine how working women prefer to converse	Two themes: importance of organisational context, and nature of discussion. Facilitators 1st theme: open culture, knowledgeable

		from the project Menopause@ Work at King's College London.		telephone interviews		about their menopausal status at work.	manager, organisation-wide awareness of menopause and aging, and access to nominated woman to discuss problems. Barriers: male-dominated workplaces, male line managers, fear of negative responses, stigma, discrimination, embarrassment or believing menopause is inappropriate to discuss. Facilitators 2nd theme: managers with understanding and acceptance, jointly seeking solutions, respecting confidentiality, appropriate humour. Barriers: being dismissive and using inappropriate body language.
Hardy et al. (2018b)	2016	N = 216 pre-, peri- and postmenopausal women (age range 45-60 yrs.). Members of a trade union and professional association for family court and probation staff.	UK: England, Wales and Northern Ireland.	Survey	Quantitative	Examines whether: (1) menopausal status, and experience of HFNS, and (2) work stress and work environment, are associated with work outcomes (absenteeism, job performance and intention to leave the labour force).	Work outcomes are significantly associated with job stress and aspects of work environment and not associated with menopausal status. HF problem rating at work was significantly associated with intention to leave the labour force.
Hickey et al. (2017)	2015 - 2016	N = 1,092 women (age range 40 - 73 yrs.) employed in three hospitals in metropolitan Australia (22% response rate).	Australia	Survey	Quantitative	Relationship between reproductive stage, menopausal symptoms and work. Advise how employers can best support menopausal women.	Reproductive stage is not significantly associated with work engagement, organisational commitment, job satisfaction, work limitations and perceived supervisor support. Postmenopausal women had lower turnover intention than pre- and peri-menopausal women. Generally, women rated their work performance as high and did not feel that MS impaired their WA. Women appreciate organisational support: temperature control, flexible work hours and information about menopause for employees and managers.
High and Marcellino, (1994)	not availabl e	N=89, postmeno-pausal working women; 61% > 55 yrs old.	Long Island, New York	Survey	Quantitative	To investigate what difficulties women face in their work environment as a result of MS.	30% reported that job performance was negatively affected by MS. Irritability and mood changes were significantly correlated with job performance (p<0.1). 41 respondents worked in management positions, 20% of them indicated that their job performance was adversely affected by MS, versus 38% in the group of non-managers.

Ilmarinen et al. (1997)	1981 - 1992	N = 818 men and women in the same occupation (age range 44 - 51 yrs.) Type of work: auxiliary work (men, women), kitchen supervision (women), transport (men), and teaching (men, women). This group of respondents is the same as in the study of Tuomi et al. 1997.	Finland	Cohort	Quantitative longitudinal study	Changes in employees WA were followed over a period of 11 years.	WA declined significantly for men and women during the 11-year study. Decline strong associated with age and work. Age (51) and physical workload critical factors affecting WA of both genders. 25% of men and women (mean age 58) engaged in the installation, auxiliary, or transport work (for men) and in kitchen supervision, auxiliary, and home care work (for women) had a poor WA rating. Annual rate of decline in WA highest for women of 51 years at study onset but depended on profession: female teachers less dramatic decline in WA than male teachers.
Jack et al. (2016)	N/A	75 studies and reports: 1974-2015	N/A	Literature review	N/A	This review summarises existing research on menopause in the workplace; it presents recommendations for employers.	Recent studies focus more on effects of MS on work; typically cross-sectional self-report surveys, with a small number of qualitative studies. VMS (and associated) symptoms have a negative impact on women's productivity, capacity to work and work experience, but not a uniform finding. Psychological and other somatic symptoms can have a relatively greater negative influence. Physical and psychosocial workplace factors influence the relationship between symptoms and work.
Jack et al. (2019)	Not availabl e	N= 48, employees at two Australian universities	Australia	Semi-structured interview study, that forms part of a broader mixed method project.	Qualitative	The study highlights the experiences of menopause in relation to work among women-employees and contributes to the feminist organisational theory by exploring subjectivities and embodiment at work.	Three modalities of the temporal experience with menopause are identified. *Episodic* modality helps women to experience their bodies in terms of capacity; *helical* modality opens the possibilities for a change; *relational* modality empowers them to renegotiate relationships with organisations and with Others. The two theoretical contributions relate to (1) the ontological role of time played by gendered agency and (2) to the notion of 'body politics of surprise'.
Kleinman et al. (2013)	2001-2010	N = 17,322 female employees diagnosed with MS (DMS) and a control group without a diagnose. Selected from Research Reference Database of	USA	Cohort study	Quantitative	Evaluation of economic burden of employees with DMS in comparison with female employees without DMS. The employee burden includes direct costs (medical and pharmacy),	Compared with controls, employees with DMS have significantly higher medical ($4,315 vs $2,972), pharmacy ($1,366 vs $908), sick leave costs ($647 vs $599), and sick leave days (3.57 vs 3.30). Employees with DMS had 12.2% lower hourly productivity and 10.9% lower annual productivity.

		Human Capital Management Services, which includes ~ 750,000 employees across US.				indirect costs (sick leave etc.), work absence days, productively output loss and turnover.	
Kopenhager and Guidozzi (2015)	N/A	17 references including articles, study reports and other grey literature.	N/A	Literature review	N/A	Identify a number of plausible strategies for employers and employees in order to support working women who experience menopause.	Consensus that ~ half of working menopausal women will be compromised to some extent by MS, about half not affected, about 5% severely affected. Women may work extremely hard to overcome perceived shortcomings resulting from MS. When women take time off work to deal with these symptoms, only half disclose the real reason for their absence to their managers. Other women have even considered resignation because of the embarrassment they felt caused by the MS.
Malinauskiene and Tamosiunas (2010)	2001-2004	N= 122 cases, 371 controls. Age: 35-61. Target: pre- and postmenopausal working women.	Kaunas, Lithuania	Population-based case-control study.	Quantitative	To assess the relationship between menopause (age) and the risk of the 1st myocardial infarction, taking into account the possible influence of psychosocial job characteristics etc.	Association between low job control and myocardial infarction stepwise increases, women in lowest quartile of job control had highest myocardial infarction risk (OR = 4.51; 95% CI 1.90–10.75), while those in the second and third quartiles showed modest risk.
Matsuzaki et al. (2014)	2013	N= 1169 (managerial position n=514, non-managerial position n=655).	Japan, 26 public and 2 private hospitals.	Questionnaire	Quantitative	To ascertain the typical MS and job-related stress factors in Japanese nurses during the menopausal transition, and the associations of MS with job-related stress.	High proportions of nurses reported tiredness, irritability and difficulty concentrating. Nurses in managerial positions more often feel unhappy or depressed, as stress related to 'quantitative overload' is significantly greater. Stress, related to physical overload, job control, skill discretion, work-place environment and job satisfaction significantly greater among non-manager nurses.
Morris and Symonds (2004)	1998	N=11, white heterosexual women, eight women with children, full-time employed (N=10) and part-time (N=1), types of employment: clerical officers, professionals, shop and factory staff.	UK: South Wales	Snowball recruitment, focus group and semi-structured interviews, followed by thematic content analysis.	Qualitative	To investigate what meanings working women in menopausal transition give to the menopause, its effects on their working and family lives and the support currently offered by medicine and health promotion.	Contradictory combination of traditional roles of mother/housewife with being employed/respected; management of women's bodies in the workplace and taboo; visibility of MS at work and 'keeping up appearances'; vulnerability and help seeking; coping strategies: health shops, exercise, change in routines; services and policies for menopausal women.

Olajubu et al., (2017)	not availabl e	N=200 women working at the Nigerian University, age: 45 and above, 152 non-academic, 48 academic professions.	Ekiti State, Nigeria	A descriptive cross-sectional research design, GCS and WAI.	Quantitative	To investigate relationship between MS and WA.	The prevalence of MS was 96.5%: muscle pain (81.5%), night sweats (80%), crying spells (27.5%). Negative significant relationship (r= -0.311, p<0.001) between MS and perceived WA.
Reynolds (1999)	not availabl e	N=29, reporting hot flashes in the last 12 months.	UK	Questionnaire s	Qualitative and quantitative	To explore whether mid-life women regard HF as a substantial stressor at work.	Women differed markedly in work situations they found problematic, but flush distress magnified during formal meetings, in hot enclosed spaces and with male colleagues. A substantial minority viewed colleagues as conveying negative attitudes towards menopausal problems, which jeopardised general confidence at work. Flush distress was higher among those reporting embarrassment and difficulties disclosing menopausal status to others.
Rutanen et al. (2014)	not availabl e	N=123: n=63 intervention group, n=60 control group.	Finland	RCT, secondary analysis	Quantitative	To investigate the effects of physical exercise on WA and daily strain among women with MS.	The increase in mental resources and decrease in physical strain from baseline to end were statistically significantly greater among the intervention group than among the control group. Between-group differences in the change in WAI were statistically non-significant.
Sarrel et al. (1990)	1990	N = 130 working women (age range 31 - 65 yrs.) Types of work: homemakers (20%), nurses, writers, architects, psychologists, physicians, secretaries and others.	USA	Cohort	Quantitative	To apply a multi-disciplinary (biological, psychological and social-demographic) approach in order to research the effects of MS on capacity to function at work among women employees.	Sleep disturbance affected work capacity of 66% of the women moderate to severe. Hot flashes affected 56%. Anxiety attacks were recorded by 46%, depression by 30%, and memory loss by 28% of participants. Headaches and palpitations incapacitated fewer women (10% and 7%, respectively).
Tuomi at al. (1997)	1981 - 1992	N = 818 men and women (age range 44 - 51 yrs). Finnish workers (type of work: physically demanding, mentally demanding or mixed). The same group of respondents as in Ilmarinen et al., 1997.	Finland	Cohort	Quantitative longitudinal study	Examine changes in WA through occupational and life-style factors.	WA of 82,3% of respondents declined vs 13,6% improvement WA (follow-up 1981-1992), not explained by age, gender, work. Change in WA associated with work changes and lifestyle during follow-up rather than with initial variation of the variables in 1981, e.g. lack of freedom, improved work posture, decreased role ambiguity. Improved WA associated with positive supervisor's attitude, decrease of repetitive movements at work, increase

							physical exercise in free time. Deterioration in WA was explained by decrease in recognition/ esteem at work, decrease in physical work conditions, increased standing at work, and decrease in physical exercise outside work.
Whiteley et al. (2013)	2005	N = 8,811 women (4,116 symptomatic and 4,695 control) (age range 44 - 60 yrs.) from a random sample obtained from the 2005 National Health and wellness Survey.	USA	Cross-sectional	Quantitative	Relationship between MS and their severity with health-related quality of life (HRQoL), work impairment, health care utilization, and costs.	Compared with women without MS, women with MS significantly lower levels of HRQoL, higher work impairment, and health care utilisation. Women with symptoms have higher presenteeism (17.7% vs. 13.6%, $p < 0.05$) and higher work impairment (16.1% vs. 12.3%, $p < 0.05$), than women without. Depression, anxiety, and joint stiffness had the strongest associations with health outcomes.
Woods and Mitchell (2011)	1990 - 2008	N = 184 women (age range 35 -55 yrs.) part of a subset of Seattle Midlife Women's Health Study. This study included also 5,656 observations from different (medical) reports and personal diaries.	Seattle, USA	Survey	Quantitative	To describe changes in symptom interference on work and relationships during the menopausal transition stages and early post-menopause.	Symptom interference with work significantly associated with perceived health, stress, hot flashes, depressed mood, anxiety, sleep problems, joint pain, forgetfulness, and difficulty concentrating.

Abbreviations:
HRT – hormone replacement therapy
MS - menopausal symptoms
VMS - vasomotor symptoms
WA - work ability
WSAS - Work and Social Adjustment Scale