Supplementary file 5. Overview of study characteristics

Study characteristics

Approximately half (52%) of the studies had been published from 2009 onwards. Apart from three studies (86, 103, 111), all participants were adults aged 18 years and over. Studies were carried out in the USA (n=29) (49, 51, 54, 56, 60, 66, 70, 72, 73, 76, 78, 81, 82, 84, 86, 88, 89, 94-98, 100, 101, 103, 104, 106-108); Australia (n=15) (29, 52, 55, 57, 68, 74, 75, 80, 83, 85, 87, 93, 99, 102, 110); the United Kingdom (n=13)(50, 53, 61, 62, 67, 69, 71, 91, 92, 105, 109, 111, 112); Canada (n=5), New Zealand (n=2) (77, 79) and France (n=1) (59). Qualitative (n=54) (29, 49-59, 61-69, 71-78, 80-87, 89, 91-99, 102, 103, 105, 108, 110-112); quantitative (n=8) (26, 60, 70, 88, 101, 106, 107, 109) and mixed method studies (n=3) (79, 90, 100) were included. Of the qualitative studies, 26 used focus group methods (29, 49, 51, 52, 54-56, 61, 62, 65, 66, 72, 73, 76-78, 80-82, 84, 86, 94, 96, 97, 108, 110); 19 used interviews (50, 53, 57-59, 67, 69, 71, 75, 83, 89, 91-93, 99, 102, 103, 105, 112) and eight used a combination of interviews and focus groups (63, 64, 68, 74, 85, 87, 95, 98). One qualitative paper used participant observation methods (111). All eight quantitative studies utilised cross-sectional survey methods (26, 60, 70, 88, 101, 106, 107, 109). Two mixed methods studies used both cross-sectional surveys and interview (79, 100) and one mixed methods study used cross-sectional surveys and focus groups (90). Twelve studies included only female participants (53, 54, 56, 58, 63-65, 67, 76, 85, 87, 91), five of which were carried out with pregnant women (54, 58, 67, 87, 91). Two studies were carried out with men only; partners of women who were pregnant (57) and disadvantaged former miners (71).

Quality assessment of qualitative studies

This figure includes assessment of the qualitative components of the mixed methods studies. The majority of studies did not explicitly state their study design (n = 42); of those that did, most used Grounded Theory (57, 59, 61, 93, 98, 99). Most studies provided adequate descriptions of the study sites; participants; data collection methods and analysis techniques. Only a small number of studies (n = 11) (51, 54, 58, 75, 76, 78, 83, 84, 96, 111, 112) addressed the role of the relationship between participants and the researcher and fewer still identified potential assumptions and biases of the researcher (n = 5) (51, 54, 61, 83, 98). Studies generally performed poorly when assessed on four components of trustworthiness, with only 17 studies meeting all four criteria (credibility; transferability; dependability and confirmability) (49, 52, 56, 58, 65, 67, 71, 73, 74, 77, 78, 80, 82, 83, 85, 86, 93). It should be
noted that none of the mixed methods studies explicitly described their methodology as mixed methods nor did they report integrating the qualitative and quantitative findings in a systematic way.

**Quality assessment of quantitative studies**

The results of the quality assessment of quantitative studies are provided in Supplementary file 6. This table also provides assessment of the quantitative components of included mixed methods studies. Sample sizes in the quantitative studies ranged from 36 to 500 participants. Response rates ranged from 42% to over 97% (four studies did not provide response rates) (79, 100, 104, 106). All but one study (90) clearly stated eligibility criteria. The majority of studies adequately described the research aims (60, 70, 79, 88, 90, 101, 104, 106, 107); source of participants(60, 88, 90, 100, 106, 107) and addressed potential sources of bias within their analysis (60, 88, 107, 109). All studies stated their outcome *a priori* and no conflicts of interest were identified. Eight studies used convenience sampling (88, 90, 100, 101, 104, 106, 107, 109). The validity and reliability of survey measures used to assess barriers to cessation were reported in one study (60). Three studies employed techniques such as pilot testing and input from key stakeholders in developing the tools used (60, 70, 109).