Supplementary appendix 3

Summary of captured systematic reviews

	Review type	Topic	Population	Inclusion criteria for study type	Specific domain(s) of interest
1. Tang et al. (2022)[19]	SR-MA	Placebo effects	Adult individuals, both healthy volunteers and clinical patients	Randomized design comparing having choice over placebo treatment with a placebo treatment without choice.	The impact of choice over placebo treatment on the placebo effect.
2. Charlesworth et al. (2017)[20]	SR-MA	Placebo effects	Participants with any diagnosed medical condition	Studies that included a comparison of an open-label placebo intervention with a "no treatment" condition.	Effects of placebos without deception.
3. Howick et al. (2013)[21]	SR-MA	Placebo effects	Across clinical conditions	Three-arm RCTs (no treatment, placebo, and active treatment).	Comparison of benefits due to placebos versus no treatments, and benefits due to active treatments versus placebos.
4. Hróbjartsson, Gøtzsche (2010)[22]	SR-MA	Placebo effects	Across clinical conditions	Three-arm RCTs (no treatment, placebo, and active treatment).	Benefit of placebos compared to no-treatments.
5. Meissner et al. (2007)[23]	SR-MA	Placebo effects	Across clinical conditions	We focused on the second dataset, consisting of three-arm RCTs with untreated groups (N = 26).	The impact of placebo treatment on peripheral disease processes.
6. Hróbjartsson, Gøtzsche (2004)[24]	SR-MA	Placebo effects	Across clinical conditions	Three-arm RCTs (no treatment, placebo, and active treatment).	Magnitude and characteristics of placebos compared to no-treatments.
7. Hróbjartsson, Gøtzsche (2001)[25]	SR-MA	Placebo effects	Across clinical conditions	Three-arm RCTs (no treatment, placebo, and active treatment).	Magnitude and characteristics of placebos compared to no-treatments.
8. Bagarić et al. (2022)[26]	SR	Nocebo effects	Predominantly young healthy adults, with one study on women suffering from breast cancer	Studies conducted in the laboratory setting, aimed at examining the mechanisms underlying the nocebo effect. We focused on those studies including pharmacological placebos (N = 7).	State of the art of contemporary laboratory research.
9. Vambheim, Flaten (2017)[27]	SR	Predictors of placebo and nocebo effects	Any condition	Studies conducted in the laboratory setting, with a natural history control group or condition.	Sex differences in the placebo and the nocebo effect.
10. Skyt et al. (2020)[28]	SR	Pain	Healthy volunteers, patients with acute or chronic pain	Placebo/nocebo mechanism studies with no-treatment group.	Neurotransmitter systems involved in placebo/nocebo effects in pain.

11. Daniali, Flaten (2019)[29]	SR	Pain	Healthy participants, patients, or animals	Studies conducted in the laboratory setting, including no-treatment group. We focused on studies on human beings (N = 33).	Effects of experimenter/clinician characteristics and nonverbal behaviour on pain, placebo, and nocebo effects.
12. Zunhammer et al. (2018)[30]	SR-MA	Pain	Healthy participants	Studies with an experimental placebo intervention to induce placebo analgesia, plus a functional imaging measurement, plus at least one control condition (no placebo-intervention).	Placebo effects on the neurologic pain signature.
13. Forsberg et al. (2017)[31]	SR-MA	Pain	Healthy individuals and patients	Studies conducted in the laboratory setting, including a group or a condition where a placebo treatment was administrated with information that it was a painkiller, together with a natural history/no-treatment group. Studies adopting the open/hidden design were included as well.	Investigates whether the magnitude of placebo analgesia is different in patients compared with healthy individuals, and whether placebo analgesia is different in experimentally induced pain compared with clinical pain in patients.
14. Peerdeman et al (2016)[32]	SR-MA	Pain	Adult patients with a somatic condition and/or undergoing medical treatment	Studies that assessed the effect of expectation inductions on pain relief in a clinical sample. We focused on those studies that used verbal suggestions of pain relief referred to placebo (N = 11) or active treatment (N = 5), in both cases compared to no treatment or a control treatment that was believed to not induce expectations of pain relief.	The effect of brief expectation interventions referred to a placebo or an active treatment on patients' pain relief.
15. Palermo et al. (2015)[33]	SR-MA	Pain	Healthy participants	Brain imaging studies conducted in the laboratory setting. Each study used one of the typical experimental paradigms for pain induction. We focused on the only experimental studies where pain anticipation was induced as a result of verbal suggestions associated with a pharmacological	Neuroanatomy of pain anticipation.

				placebo (N = 2; we excluded cue-based expectancy studies).	
16. Atlas, Wager (2014)[34]	SR-MA	Pain	Any human population	Neuroimaging studies conducted in the laboratory setting. We focused on studies of placebo-based treatment expectancy (N = 17), and excluded stimulus expectancies studies.	Brain mechanisms of placebo analgesia.
17. Petersen et al. (2014)[35]	SR-MA	Pain	Mainly healthy participants, and two studies with patients (thoracoscopy or IBS)	Studies conducted in the laboratory setting, including a nocebo-treated group/condition and a no-treatment. We focused on those studies in which nocebo treatment was induced by verbal suggestions alone, as most of the nocebo treatments were conceptualized as administration of inert agent (N = 6).	Magnitude of nocebo effects in pain.
18. Amanzio et al. (2013)[36]	SR-MA	Pain	Mainly healthy participants, and two studies with patients (IBS, FGID)	Brain imaging studies conducted in the laboratory setting and mainly using pharmacological placebo treatments.	Brain correlates of placebo analgesia.
19. Vase et al. (2009)[37]	SR-MA	Pain	Healthy participants and patients (IBS, AD)	Studies conducted in the laboratory setting, including a placebo-treated group/condition (mainly pharmacological placebos) and a no-treatment group/condition.	Factors contributing to large analgesic effects in placebo mechanism studies conducted between 2002 and 2007.
20. Sauro, Greenberg (2005)[38]	SR-MA	Pain	Healthy participants and post-surgical/clinical patients	Studies conducted in the laboratory setting, measuring both placebo analgesia and its reversal by naloxone administered via hidden injection or through a blinded procedure.	Investigate the ability of placebo administration to reduce self-report of pain, and examine the related mechanisms.
21. Vase et al. (2002)[39]	SR-MA	Pain	Patients affected by a variety of pain conditions	Studies had to include a natural history condition without treatment and were divided into those in which placebo was used as a control condition (23 studies) and those in which the aim was to investigate	Comparing the magnitude of placebo effects in studies of placebo analgesia mechanisms versus clinical analgesic trials.

				the analgesia mechanisms of placebo (14 studies).	
22. Ter Riet et al. (1998)[40]	SR	Pain	Healthy volunteers, postsurgical patients (removal of 3rd molars and posterolateral thoracotomy)	Studies employing placebo administration for clinical or experimental pain in addition to the hidden infusions with an endorphin antagonist or an endorphin synergistic drug.	Assessment of an antagonistic effect of naloxone and a synergistic effect of proglumide on placebo-induced analgesia.
23. Quattrone et al. (2018)[41]	SR	PD	PD patients	Studies conducted in the laboratory setting, using different neuroimaging procedures and validated experimental protocols to evaluate the placebo effect.	Neurobiology of placebo effect in PD.
24. Swerts et al. (2022)[42]*	SR-MA	Migraine	Adults patients with chronic migraine and no associated comorbidities	Placebo-controlled RCTs.	Investigate the relationship between route of placebo administration and headache relief in chronic migraine preventive treatment.
25. Amanzio et al. (2009)[43]*	SR-MA	Migraine	Migraine patients with or without aura	Anti-migraine placebo-controlled RCTs.	AEs profiles of anti-migraine drugs: NSAIDs, triptans and anticonvulsants.
26. de Craen et al. (2000)[44]*	SR-MA	Migraine	Patients with acute migraine	Placebo-controlled RCTs with at least one group treated with sumatriptan and one group with placebo.	Investigate the relationship between route of placebo administration and headache relief in the acute treatment of migraine.
27. Yeung et al. (2017)[45]	SR-MA	Sleep	Adult with insomnia symptoms	Three-arm placebo-controlled RCTs and experimental studies whose sole purpose was to compare placebo treatment with no treatment. All participants were blind to the possibility of receiving a placebo. Even if not all three-arm RCTs were pharmacological, the "study type" factor was shown not to moderate the placebo effect size.	Placebo effect size for insomnia symptoms.
28. Jensen et al. (2017)[46]*	SR-MA	Intellectual disability	Fragile X, Down, Prader-Willi, or Williams syndrome patients	OLT and placebo-controlled RCTs including placebo group.	To determine the placebo component (different probabilities of receiving the active treatment) of treatment responses

					in patients with intellectual disability.
29. Fernández-López et al. (2022)[47]	SR-MA	Mental and behavioural disorders	Mental Disorders classified by DSM-5	Three-arm placebo-controlled RCTs. We focused on placebo effect in depression (N = 9, i.e., the only investigated mental disorder which comprised mainly pharmacological interventions).	Placebo effects in depression.
30. Huneke et al. (2022)[48]	SR	Depression and anxiety	Adults with unipolar depression or anxiety disorders	We focused on studies presenting neuroimaging data associated with placebo mechanisms such as learning or expectancy (N = 5).	Functional neuroanatomy of the placebo effect in patients with anxiety or depressive disorders.
31. Matthiesen et al. (2021)[49]*	SR-MA	Dementia	AD patients	OLT and placebo-controlled RCTs including placebo group.	Role of expectations (different probabilities of receiving genuine treatment) in AD clinical trials.
32. Galindo et al. (2020)[50]	SR	Addiction	Alcohol, caffeine, or nicotine consumers	Studies conducted in the laboratory setting whose topic was placebo effect.	The influence of placebo effect on craving and cognitive performance.
33. McKay, Schare (1999)[51]	SR-MA	Addiction	Any human population	Studies conducted in the laboratory setting, where the BPD was adopted.	Expectancy effects and their moderators in the BPD literature.
34. Daniali, Flaten (2020)[52]	SR	Cardiovascular system	Healthy subjects and patients experiencing pain	Laboratory or clinical randomized studies including at least two comparison groups/conditions or a control group/condition (natural history).	The effects of placebo analgesia and nocebo hyperalgesia on cardiac activity.
35. Quinn, Colagiuri (2015)[53]	SR	Gastrointestinal disorders	Healthy and clinical populations (chemotherapy patients)	Instructional and conditioning interventions aimed at altering nausea via the placebo effect (most of them used nutritional or pharmacological placebos).	Determine if placebo interventions can affect nausea and which features of these interventions are effective.
36. Meeuwis et al. (2020)[54]	SR	Skin diseases	Patients with acute or chronic itching, and healthy volunteers	Original observational/experimental studies in which placebo or nocebo effects were experimentally induced. We focused on studies on human beings (N = 55).	Placebo and nocebo effects in dermatological conditions and itch.
37.	SR-MA	Flu and related vaccines	Safety population (adult, at least 1 dose	Placebo-controlled RCTs, phase-III, for	AEs in the placebo control groups

Amanzio et al. (2022)[55]*			of vaccine, safety data available), mainly Caucasian	SARS-CoV-2 vaccines (BNT162b2, mRNA-1273, Ad26.COV2.S) approved by EMA or FDA. The placebo control group was treated with a saline solution.	associated with COVID-19 vaccines.
38. Horváth et al. (2021)[56]	SR-MA	Physical performance	Any human population (mainly studies on healthy individuals and some studies on Parkinson's patients)	Studies conducted in the laboratory setting. We focused on studies where the control was a no-intervention condition, i.e., no agent, information, or conditioning was delivered (N = 6). They were conducted on healthy individuals.	Nocebo effects induced by inert substances on motor performance.
39. Marticorena et al. (2021)[57]	SR-MA	Physical performance	Healthy human males and females of any age	Any randomized and blinded, crossover, or parallel-group design requiring a supplementation protocol and including both a placebo and a no treatment group.	Estimate the size of the placebo effects associated with caffeine and buffering supplements.
40. Hurst et al. (2020)[58]	SR-MA	Physical performance	Participants described as "apparently healthy" or "athletes"	Studies conducted in the laboratory setting, assessing the effect of placebo/nocebo ergogenic aids. We focused on nutritional and pharmacological ergogenic aids (N = 20). Each study included no-treatment control or a baseline in which participants' own performance acted as a no-treatment control.	Placebo and nocebo effect on sports performance.
41. Bérdi et al. (2011)[59]	SR-MA	Physical performance	Healthy subjects at all levels of fitness	Studies conducted in the laboratory setting, assessing the effect of placebo nutritional supplements in any sporting performance at all level of fitness. Each study included no-treatment group or baseline measurement.	Placebo effects in sport and exercise.

AD = Alzheimer's disease, AEs = Adverse events, BPD = balanced-placebo-design, EMA, European Medicine Agency, DSM-5 = The Diagnostic and Statistical Manual of Mental Disorders Fifth Edition, FDA, Food and Drug Administration, FGID = functional gastrointestinal disorder, IBS = irritable bowel syndrome, OLT = open label trial, PD = Parkinson's disease, RCTs = randomized controlled trials, NSAIDs = non-steroid anti-inflammatory drugs, SR = systematic review, SR-MA = systematic review and meta-analysis.

* Based on placebo-controlled RCTs without a no-treatment group, but still informative regarding placebo and nocebo mechanisms.