Supplement 1. Search Strategy for Medline Database to Identify Studies Examining Efficacy of Nutrition and Physical Activity Interventions

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| MEDLINE Complete (Ebsco) [Search date: May 5, 2020] | | | | | |
| **#** | **Query** | **Results** | **Limiters/Expanders** | **Last Run Via** | **Results** |
| S44 | ( S42 AND S30 ) NOT S43 | 13,439 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 13,439 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S43 | S42 AND S27 | 2,752 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 2,752 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S42 | ( S35 OR S36 OR S37 OR S38 ) NOT ( (S31 OR S34 OR S40 OR OR S41) ) | 27,515 | Limiters - Date of Publication: 20050101-20201231; English Language | Interface - EBSCOhost Research Databases | 27,515 |
| Search modes - Boolean/Phrase | Search Screen - Advanced Search |
|  | Database - MEDLINE Complete |
| S41 | PT (letter not (letter and randomized controlled trial)) | 1,068,626 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 1,068,626 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S40 | PT (comment or editorial or news or newspaper article) | 1,407,214 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 1,407,214 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S39 | S35 OR S36 OR S37 OR S38 | 74,942 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 74,942 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S38 | ( S26 AND (S4 OR S23) ) | 15,657 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 15,657 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S37 | (S16 AND (S20 OR S23)) | 14,414 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 14,414 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S36 | S16 AND S9 | 46,358 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 46,358 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S35 | S16 AND S4 | 9,627 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 9,627 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S34 | S32 OR S33 | 5,923,789 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 5,923,789 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S33 | TI (child or pediatric\* or paediatric\* or infant or infants) | 467,601 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 467,601 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S32 | ( (MH "Adult+") OR (MH "Young Adult") OR (MH "Middle Aged") ) NOT ( (MH "Child+") OR (MH "Infant+") OR (MH "Adolescent") ) | 5,460,083 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 5,460,083 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S31 | (MH ("Animals+") NOT MH ("humans")) OR TI (mice or mouse or animal or animals or rat or rats or rabbit or rabbits) | 4,984,571 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 4,984,571 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S30 | S28 OR S29 | ######## | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 10,027,689 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S29 | (MH "Qualitative Research+") OR (MH "Interdisciplinary Research") OR (MH "Rehabilitation Research") OR (MH "Comparative Study") OR (MH "Longitudinal Studies+") OR (MH "Case-Control Studies+") OR (MH "Cohort Studies+") OR (MH "Retrospective Studies") OR (MH "Prospective Studies") OR (MH "Sampling Studies+") OR (MH "Interdisciplinary Studies+") OR (MH "Qualitative Research+") OR (MH "Interdisciplinary Research") OR (MH "Rehabilitation Research") OR (MH "Comparative Study") OR (MH "Longitudinal Studies+") OR (MH "Case-Control Studies+") OR (MH "Cohort Studies+") OR (MH "Retrospective Studies") OR (MH "Prospective Studies") OR (MH "Sampling Studies+") OR (MH "Interdisciplinary Studies+") OR ZT "randomized controlled trial" OR ((((ZT "clinical trial") or (ZT "clinical trial protocol") or (ZT "comparative study") or (ZT "controlled clinical trial")) or ((ZT "observational study"))) or (ZT "validation study"))) or ((ZE "cohort studies")) OR ZT "Randomized controlled trial" | 4,338,624 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 4,338,624 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S28 | TI ( case-control or cohort or comparative or controlled or cross-sectional or cross-over or crossover or evaluation or evaluative or experiment\* or longitudinal or observational or prospective OR randomi\* or registry or retrospective or studies or study or survey\* or trial ) ) OR AB ((Aim or aims or clinical or cohort or controlled or equivalence or evaluativ\* or interventional or previous or present) N3 (Study or trial)) OR AB (experiment or experimental or observational or randomly or ((control or controlled) N2 (group or groups or participant\* or design or cohort\* or case))) OR ( MW (trial or study or cohort or cross-sectional or controlled OR cross-sectional or evaluation or observational or observational or randomly or randomi\* or registry or prospective or retrospective) ) | 8,899,802 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 8,899,802 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S27 | ( AB ( (systematic review or scoping review or meta-analy\* or metaanyl\* ) ) OR TI ( ((systematic or scoping or review) N2 (review or reviews)) or scoping review or meta-analy\* or metaanyl\* ) ) OR MW ( (systematic review or scoping review or meta-analy\* or metaanyl\* ) ) ) OR SO ( cochrane OR Systematic review\* ) OR ( AB "risk of bias" or quality assessment or data extraction or Pubmed or Medline OR "web of science" or Embase OR CINAHL ) OR (ZT "systematic review") OR (ZT "Meta-analysis") OR TI meta-synthesis OR AB meta-synthesis | 429,119 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 429,119 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S26 | S24 OR S25 | 359,320 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 359,320 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S25 | TI (overweight or obese or obesity) OR AB (overweight or obese or obesity) | 311,110 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 311,110 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S24 | MH "Overweight" OR MH "Obesity+" | 218,497 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 218,497 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S23 | S21 OR S22 | 195,039 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 195,039 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S22 | ( TI (counseling or counselling or counselor\* or counsellor\* or motivational interview\* or directive therapy or ((behavior\* or behaviour\*) N2 (intervention or interventions OR therapy or therapies))) ) OR ( AB (counseling or counselling OR motivational interview\* or directive therapy or ((behavior\* or behaviour\*) N2 (therapy or therapies))) ) | 121,522 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 121,522 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S21 | (MH "Cognitive Behavioral Therapy+") OR (MH "Behavior Therapy+") OR (MH "Directive Counseling+") OR (MH "Counseling") | 111,543 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 111,543 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S20 | S17 OR S18 OR S19 | 51,641 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 51,641 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S19 | TI (app or apps) OR AB (app or apps) OR ( TI ((portable or wearable) N2 (technology or technologies)) ) OR ( AB ((portable or wearable) N2 (technology or technologies)) ) | 27,846 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 27,846 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S18 | TI (iphone\* or i-phone\* or cell phone\* or mobile phone\* or i-pod or ipod or ipods or i-pods or smartphone\* or smart phone\*) OR AB (iphone\* or i-phone\* or cell phone\* or mobile phone\* or i-pod or ipod or ipods or i-pods or smartphone\* or smart phone\*) | 21,837 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 21,837 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S17 | (MH "Smartphone") OR (MH "Cell Phone+") OR MH "Mobile Applications" | 17,750 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 17,750 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S16 | S10 OR S11 OR S12 OR S13 OR S14 OR S15 | 501,598 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 501,598 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S15 | TI anthropomorphic\* measur\* OR AB anthropomorphic\* measur\* | 615 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 615 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S14 | MH "Muscle Strength+" | 33,067 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 33,067 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S13 | AB ( ((daily or regular\*) N2 (exercise or exercising or walk\* or swimming or physical activity or physical activities or bike ride\* or bicycling or weight lifting)) or (jogging or hiking or pilates or rowing machine\* or stationary bike\* or stationary biking or stationary bicycl\* or stairclimb\* or stair climb\* or Walking or yoga or treadmill\*)) OR AB (((physical or muscle or strength or endurance or resistance or circuit or plyometric OR upper-body or lower-body or arm or arms or legs or leg or aerobic or cardio\* or anaerobic or stretch or stretches or stretching or weight) N2 (exercise\* or exercising or training)) OR AB muscle strength\* or AB (aerobic activity or aerobics OR post-exercise\* OR physical performance or lean muscle\* or muscular strength\* or muscle strength\* or muscle mass) OR AB ((exercise or ergometr\* or fitness) N2 Test\*) | 303,188 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 303,188 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S12 | TI (physical fitness or physical activity or physical activities) OR AB (physical fitness or physical activity or physical activities) | 125,475 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 125,475 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S11 | TI ((exercise or exercising or post-exercise or exercises) AND (Performance OR physical\* or muscle\* or recovery or recovering)) OR AB (post-exercis\*) OR AB (exercise or exercising or exercises) N3 (Performance OR physical\* or muscle\* or recovery or recovering)) OR TI (physical endurance OR AB physical Endurance OR TI performance endurance or AB performance endurance | 62,668 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 62,668 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S10 | MH "Exercise+" | 191,731 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 191,731 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S9 | S5 OR S6 OR S8 | 634,701 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 634,701 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S8 | MH "Eating" | 52,274 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 52,274 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S7 | TI ((electrolyte or energy or sports or protein or carbohydrate\* or vitamin) N2 (drink or drinks or beverage\* OR water)) OR TI gatorade or AB gatorade OR AB ((electrolyte or energy or sports or protein or carbohydrate\* or vitamin) N2 (drink or drinks or beverage\*)) | 9,180 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 9,180 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S6 | TI (diet or diets or dietary or nutrition\* ) OR AB (diet or diets) | 482,328 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 482,328 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S5 | MH "Diet+" | 276,749 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 276,749 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S4 | S1 OR S2 OR S3 | 150,363 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 150,363 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S3 | TI ((electrolyte or energy or sports or protein or carbohydrate\* or vitamin) N2 (drink or drinks or beverage\* OR water)) OR TI gatorade or AB gatorade OR AB ((electrolyte or energy or sports or protein or carbohydrate\* or vitamin) N2 (drink or drinks or beverage\*)) | 9,180 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 9,180 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S2 | TI ((vitamin or vitamins or provitamin\*) N2 (daily or supplement or supplements)) OR AB ((vitamin or vitamins or provitamin\*) N2 (daily or supplement or supplements)) OR ( TI ((caffeine OR creatine or collagen OR or protein or leucine or fish or fish-oil or fishoil or diet or dietary) N2 (supplement\*)) ) OR ( AB ((caffeine or creatine or collagen or protein or leucine or fish or fish-oil or fishoil or diet or dietary) N2 (supplement\*)) ) OR ( TI ((Branched Chain Amino Acid\* OR BCAA) N2 (supplement\*)) ) OR ( AB ((Branched Chain Amino Acid\* OR BCAA) N1 (supplement\*)) ) OR TI (multi-vitamin\* or multivitamins) OR AB (multi-vitamin\* or multivitamins) OR TI (( omega 3 Omega3) N4 supplement\*) OR AB (( omega 3 Omega3) N4 supplement\*) OR TI PUFA or AB PUFA OR TI (prebiotic or prebiotics or probiotic or probiotics) OR AB (prebiotic or prebiotics or probiotic or probiotics) OR TI ((performance enhancing) N2 (drug or drugs or substance\* or effect or effects)) OR TI ((performance enhancing) N2 (drug or drugs or substance\* or effect or effects)) or TI Ergogenic or AB Ergogenic OR ((Ketone or ketones) N2 exogenous\*) | 101,869 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 101,869 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |
| S1 | MH "Dietary Supplements+" OR MH "Performance-Enhancing Substances" OR MH "Energy Drinks" | 76,196 | Search modes - Boolean/Phrase | Interface - EBSCOhost Research Databases | 76,196 |
| Search Screen - Advanced Search |
| Database - MEDLINE Complete |