

## Search strategy

A comprehensive search will be conducted for studies published after 1990 and before July 2023 in PubMed, MEDLINE, CINAHL, Child Development & Adolescent studies, Cochrane Library. All the synonyms relevant to keywords will be used to obtain a comprehensive search. The search terms will be adapted for specific databases. A combination of “free text” and Medical Subject Heading (MeSH) will be used to ensure maximum coverage of the literature. A secondary search will be conducted by manually reviewing the reference sections of each identified manuscript.

## Search Term

### *Population*

“childhood cancer survivor\*” OR “survivor\* of childhood cancer” OR “teenage and young adult\* cancer survivor\*” OR “TYA cancer survivor\*” OR “adolescent\* and young adult\* cancer survivor\*” OR “AYA cancer survivor\*” OR “children and teenager\* and young adult\* cancer survivor\*” OR “CTYA cancer survivor\*” OR “children and adolescent\* and young adult\* cancer survivor\*” OR “CAYA cancer survivor\*” OR “pediatric oncology” OR “paediatric oncology” OR “pediatric cancer” OR “paediatric cancer” OR “pediatric neoplasm\*” OR “paediatric neoplasm\*” OR “pediatric tumor\*” OR “paediatric tumor\*” OR “pediatric tumour\*” OR “paediatric tumour\*” OR “childhood tumor\*” OR “childhood tumour\*” OR “childhood neoplasm\*” OR “childhood oncology” OR “leukemia\*” OR “leukaemia\*” OR “Lymphoid leukemia” OR “acute lymphoblastic leukaemia\*” OR “acute lymphoblastic leukemia\*” OR “acute myeloid leukemia\*” OR “acute myeloid leukaemia\*” OR “lymphoma\*” OR “hodgkin” OR “non-hodgkin” OR “brain cancer\*” OR “brain tumor\*” OR “brain tumour\*” OR “brain neoplasm\*” OR “central nervous system tumor\*” OR “central nervous system tumour\*” OR “central nervous system neoplasm\*” OR “ependymomas” OR “choroid plexus tumor\*” OR “choroid plexus tumour\*” OR “astrocytoma\*” OR “intraspinal neoplasm\*” OR “intracranial neoplasm\*” OR “intraspinal tumor\*” OR “intraspinal tumour\*” OR “intracranial tumor\*” OR “intracranial tumour\*” OR “medulloblastoma\*” OR “Primitive neuroectodermal tumor” OR “Primitive neuroectodermal tumour” OR “medulloepithelioma” OR “glioma\*” OR “oligodendroglioma\*” OR “glial tumor\*” OR “glial tumour\*” OR “craniopharyngiomas” OR “meningioma\*” OR “neuroblastoma” OR “ganglioneuroblastoma” OR “peripheral nervous cell tumor\*” OR “peripheral nervous cell tumour\*” OR “retinoblastoma” OR “renal tumor\*” OR “renal tumour\*” OR “kidney sarcoma\*” OR “renal carcinoma\*” OR “nephroblastoma” OR “hepatic tumor\*” OR “hepatic tumour\*” OR “hepatoblastoma” OR “tumor\* of liver” OR “tumour\* of liver” OR “sarcoma\* of liver” OR “hepatic carcinoma\*” OR “hepatoma” OR “bone tumor\*” OR “bone tumour\*” OR “bone neoplasm\*” OR “bone sarcoma\*” OR “tumor\* of bone”

OR "tumour\* of bone" OR "sarcoma\* of bone" OR "neoplasm\* of bone" OR "osteosarcoma\*" OR "chondrosarcoma\*" OR "Ewing" OR "Askin" OR "peripheral neuroectodermal tumor" OR "peripheral neuroectodermal tumour" OR "chordomas" OR "soft tissue tumor\*" OR "soft tissue tumour\*" OR "soft tissue neoplasm\*" OR "soft tissue sarcoma\*" OR "rhabdomyosarcoma\*" OR "fibrosarcoma\*" OR "fibroblastic tumor\*" OR "fibroblastic tumour\*" OR "myofibroblastic tumor\*" OR "myofibroblastic tumour\*" OR "nerve sheath tumor\*" OR "nerve sheath tumour\*" OR "fibrous neoplasm\*" OR "fibromatous neoplasm\*" OR "Kaposi" OR "liposarcoma\*" OR "fibrohistiocytic tumor\*" OR "fibrohistiocytic tumour\*" OR "leiomyosarcomas" OR "extraosseous sarcoma\*" OR "germ cell cancer" OR "germ cell tumor\*" OR "germ cell tumour\*" OR "germinomas" OR "teratomas" OR "embryonal carcinomas" OR "yolk sac tumor" OR "yolk sac tumour" OR "choriocarcinoma" OR "gonadoblastoma" OR "gonadal carcinomas" OR "gonadal tumor\*" OR "gonadal tumour\*" OR "trophoblastic tumor\*" OR "trophoblastic tumour\*" OR "neoplasm\* of gonad\*" OR "carcinoma\*" OR "melanoma\*" OR "blastoma" OR "Mesothelioma"

#### *Exposures/interventions*

"diet\*" OR "diet quality" OR "dietary" OR "dietary pattern\*" OR "dietary habit" OR "dietary intake" OR "dietary recommendation\*" OR "nutrition" OR "nutritional intake" OR "food" OR "food intake" OR "food habit" OR "healthy eating" OR "eating habit" OR "healthy eating index" OR "index of dietary recommendation\*" OR "Mediterranean diet" OR "dietary approaches to stop hypertension" OR "caloric intake" OR "vegetable\*" OR "fruit\*" OR "whole grain\*" OR "legume\*" OR "dairy product\*" OR "fish" OR "seafood" OR "nut\*" OR "sweet\*" OR "sugar" OR "red meat" OR "energy" OR "macronutrient\*" OR "protein" OR "fat" OR "saturated fat" OR "polyunsaturated fat" OR "monounsaturated fat" OR "carbohydrate" OR "free sugar\*" OR "salt" OR "fibre" OR "vitamin\*" OR "Thiamin" OR "Riboflavin" OR "Niacin equivalent" OR "Folate" OR "micronutrient\*" OR "mineral\*" OR "Iron" OR "Calcium" OR "Magnesium" OR "Potassium" OR "Zinc" OR "Copper" OR "Iodine" OR "Selenium" OR "Phosphorus" OR "Chloride" OR "Sodium"

#### *Outcomes*

"cardiovascular health" OR "cardiovascular disease\*" OR "heart failure" OR "congestive heart failure" OR "cardiomyopathy" OR "coronary artery disease" OR "myocardial infarction" OR "arterial hypertension" OR "arrhythmia" OR "stroke" OR "angina pectoris" OR "thrombosis" OR "valvular abnormalit\*" OR "valvular disease\*" OR "valvular problem\*" OR "valvular dysfunction\*" OR "valvular regurgitation" OR "valvular stenosis" OR "conduction abnormalit\*" OR "rhythm abnormalit\*" OR

“cardiac ischemia” OR “cardiac infarction” OR “pericardial disease\*” OR “deep vein thrombosis” OR “cardiac function” OR “cardiac dysfunction” OR “left ventricular ejection fraction” OR “left ventricular shorten fraction” OR “left ventricular diastolic function” OR “left ventricular diastolic dysfunction” OR “left ventricular systolic function” OR “left ventricular systolic dysfunction” OR “early diastolic left ventricular filling velocity” OR “late diastolic left ventricular filling velocity” OR “early to late left ventricular filling velocity” OR “mitral annular early diastolic velocity” OR “peak mitral flow velocity” OR “peak tricuspid regurgitation velocity” OR “left atrial maximum volume index” OR “global longitudinal strain” OR “global circumferential strain” OR “global radial strain” OR “cardiovascular disease\* risk factor\*” OR “CVD risk factor\*” OR “weight” OR “body mass index” OR “BMI” OR “waist circumference” OR “hip circumference” OR “waist hip ratio” OR “fat mass percentage” OR “percent body fat” OR “body fat percentage” OR “abdominal visceral fat” OR “abdominal subcutaneous fat” OR “abdominal obesity” OR “obesity” OR “obese” OR “overweight” OR “increased body mass index” OR “raised body mass index” OR “increased waist circumference” OR “increased waist-hip ratio” OR “increased body fat mass” OR “percent body fat” OR “waist to height ratio” OR “metabolic syndrome” OR “insulin resistance syndrome” OR “Syndrome X” OR “hypertension” OR “high blood pressure” OR “systolic hypertension” OR “diastolic hypertension” OR “ambulatory blood pressure” OR “arterial blood pressure” OR “exercise blood pressure” OR “impaired glucose metabolism” OR “diabetes mellitus” OR “diabetes” OR “prediabetes” OR “impaired fasting glucose” OR “impaired glucose tolerance” OR “glucose intolerance” OR “insulin resistance” OR “insulin sensitivity” OR “hyperinsulinemia” OR “impaired insulin sensitivity” OR “impaired oral glucose tolerance test” OR “homeostasis model assessment” OR “HOMA” OR “HbA1c” OR “glycated haemoglobin” OR “Hyperlipidemia” OR “elevated triglycerides” OR “lipid\*” OR “triglycerides” OR “total cholesterol” OR “lipoprotein” OR “high-density lipoprotein cholesterol” OR “HDL-cholesterol” OR “low HDL-cholesterol” OR “low-density lipoprotein cholesterol” OR “LDL-cholesterol” OR “elevated LDL-cholesterol” OR “hypertriglyceridemia” OR “hypertriglyceridaemia” OR “hypercholesterolemia” OR “hypercholesterolaemia”

Inclusion criteria

Population

Paediatric/adult (any age) survivors with a history of childhood cancer (diagnosed before 25 years of age).

Exposure/ Intervention

The exposures or interventions must have included diet.

### Comparator

No specific comparator group will be used.

### Outcomes

The outcomes are either CVD conditions, cardiac functions, or CVD risk factors.

### Study type

Interventional studies (randomized controlled trial (RCT), non-randomized experimental studies) and observational studies (cohort studies, cross-sectional studies, and case–control studies)

### Exclusion criteria

Studies will be excluded if they meet one of the below criteria:

1. Case studies, book chapters, guidelines, commentaries, reviews, abstracts, and dissertations.
2. Does not include dietary exposures or interventions.
3. Does not primarily report CVD or markers of CVD.
4. Papers published before 1990.

### Screening and selection

The screening process consists of a two-step screening process. Throughout the screening process, two reviewers (Ruijie Li, Dewi Paris) will independently select articles based on the inclusion and exclusion criteria that had been identified. In the first step, each title and abstract will be reviewed. After excluding articles that do not meet the inclusion criteria, the other articles will be retained for a full-text review. In the event of a disagreement between two reviewers' screenings, the issue will be resolved through communication and, if necessary, by consulting a third reviewer (Raquel Revuelta Iniesta). We will use Rayyan (<http://rayyan.qcri.org>) to screen abstracts and titles.