INPLASY PROTOCOL

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Conflicts of interest:
None declared.

Effect of illness perception, cognitive appraisal on coping in kidney transplant recipients: systematic review and meta-analysis

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Review question / Objective: **Participants/population: We will include recipients aged 12-65 years with no serious comorbidities, such as malignancy, psychiatric disorders, etc. Intervention(s), exposure(s): Illness perception is defined by the following attributes: identity (what the disease is), cause (what caused it), timeline (acute, chronic, cyclic), consequences (minor, moderate, severe), control (whether anything can be done about the disease) and emotional response (anxiety, worry). Cognitive appraisal (also called simply 'appraisal') is the subjective interpretation made by an individual to stimuli in the environment. It is a component in a variety of theories relating to stress, mental health, coping, and emotion. IB and CA must refer to cognitive representation of the disease. IB and CA should be analyzed separately. Comparator(s)/control: No treatment. Main Outcome (s) : a) Symptoms of anxiety or depression, such as AIMS scale、BDI scale, and so on. b) Quality of life, such as Qol scale. c) Coping Style, such as the COPE Inventory Scale.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 11 May 2023 and was last updated on 11 May 2023 (registration number INPLASY202350040).

INTRODUCTION

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'appraisal') is the subjective interpretation made by an individual to stimuli in the environment. It is a component in a variety of theories relating to stress, mental health, coping, and emotion. IB and CA must refer to cognitive representation of the disease. IB and CA should be analyzed separately. Comparator(s)/control: No treatment. Main Outcome (s) : a) Symptoms of anxiety or depression, such as AIMS scale、BDI scale, and so on. b) Quality of life, such as Qol scale. c) Coping Style, such as the COPE Inventory Scale.

Condition being studied: Transplantation is a technique in which cells, tissues, or organs from one individual are surgically or otherwise introduced into a part of the self or another individual to replace a lost function. Depending on the imported graft, there are cell, tissue, and organ
transplants. The desire for a normal life, including taking on parental responsibilities and engaging in daily activities, is strong in post-transplant recipients. Therefore, recipients may have many coping ways. A number of coping indicators, including depression and anxiety, can be used to determine the degree of
coping. The illness perception is crucial. We will tease apart relationships between illness perception, and psychological outcomes. When it comes to pain, well-being, roles, and disease status, illness perception can have significant effects on healthy habit adjustment psychology. The Illness Perceptions Questionnaire Revised (IPQ-R) and so on can be used to predict the coping process, but few studies have assessed illness perceptions in transplant recipients. The cognitive appraisal is additionally crucial. Cognitive appraisal is defined as the process of evaluating a person's subjective interpretation. After kidney transplantation, 58% of recipients had cognitive impairment. Some tools can be used to evaluate cognition appraisal, such as CAHS(cognitive appraisal of healthscale).

METHODS

Search strategy: Two authors will search a wide range of sources to find both published and unpublished studies via the following electronic databases and grey literature sources: PubMed, Embase, Cochrane, JBI, APA and ScienceDirect will be searched from their inception dates to January 2023. The reference lists of all identified reviews or clinical trials will be searched for additional studies.
The first step is to review the widest possible number of scientific databases using keywords such as “illness perceptions” AND “transplant”;“cognitive appraisals” AND “transplant”. The next step will be the selection of articles that meet the criteria for inclusion in the review and their description. Coping indicators include“depressive symptoms, anxiety, quality of life, and so on”. English language restrictions will be applied.

Participant or population: We will include kidney transplant recipients aged 12-65 years with no serious comorbidities, such as malignancy, psychiatric disorders, etc.

Intervention: Illness perception is defined by the following attributes: identity (what the disease is), cause (what caused it), timeline (acute, chronic, cyclic), consequences (minor, moderate, severe), control (whether anything can be done about the disease) and emotional response (anxiety, worry).
Cognitive appraisal (also called simply 'app raisal') is the subjective interpretation mad e by an individual to stimuli in the environm ent. It is a component in a variety of theorie s relating to stress, mental health, coping, and emotion.

Comparator: No treatment.

Study designs to be included: All original studies will be eligible for inclusion.

Eligibility criteria: Nothing else.

Information sources: Two authors will search a wide range of sources to find both published and unpublished studies via the following electronic databases and grey literature sources: PubMed, Embase,

Cochrane, JBI, APA and ScienceDirect will be searched from their inception dates to January 2023. The reference lists of all identified reviews or clinical trials will be searched for additional studies. Study authors will be contacted where data was missing or incomplete.

Main outcome(s): a) Symptoms of anxiety or depression, such as AIMS scale、BDI scale, and so on.
b) Quality of life, such as QoI scale.
c) Coping Style, such as the COPE Inventory Scale.

Additional outcome(s): 1、Perceived self-efficacy, measured as Perceived Health Competence Scale(PHCS).
2、Symptom, measured as symptom checklist and Sickness Impact Profile(SIP).
3、Demographic and clinical data.

Data management: We systematically reviewed studies quality using predetermined eligibility criteria. Literature searching will be followed by independent screening. If consensus cannot be reached this will be resolved through discussion. References will be downloaded from databases, journals or entered manually into Endnote Reference Manager for deduplication and then transferred into Excel to manage screening, quality assessment and data extraction. Two review authors will independently carry out data extraction, using a pre-tested data extraction form. A third review author will resolve disagreements between the two review authors in consultation with them.
For included trials, we will abstract the following data as recommended in Preferred Reporting Items for Systematic Reviews and Meta-Analyses version 2020(PRISMA 2020):
·General information: author, country, publication year, journal citation;
·Participants: inclusion and exclusion criteria, total number,setting;
·Methods of Analysis.
·Outcome measures, as Correlation coefficient(r) for outcomes or other data that can be converted.
Study authors will be contacted where data was missing or incomplete.

Quality assessment / Risk of bias analysis: We will assess the risk of bias using Newcastle Ottawa scale (NOS) tool. Disagreements will be discussed and resolved with reference to the original protocol and, if necessary, arbitration by a third reviewer.
Funnel plot tests for asymmetry will be conducted to investigate potential reporting bias where feasible and sufficient studies exist under a single meta-analysis (Egger et al., 1997).

Strategy of data synthesis: Data from individual studies will be combined in a meta-analysis only where appropriate.
Correlation coefficient(r) will be calculated to combine different results to assess the relationship between exposure factors and outcome indicators. When standard deviation has not been reported with r, it will be calculated from the information reported such as t, F, X2, or β.
Between-study heterogeneity will be assessed using the I^2 statistic which describes the percentage of variation across studies that is due to heterogeneity rather than chance. Rules of thumb for interpretation of this statistic suggest that $I^2 > 25\%$ represents moderate heterogeneity, $I^2 > 50\%$ represents substantial heterogeneity and $I^2 > 75\%$ represents considerable heterogeneity.

Subgroup analysis: We will conduct the following subgroup analyses for the outcomes if there are sufficient trials under the same comparison group: a) different types of cognitive appraisal (e.g. primary appraisal, secondary appraisal, and reappraisal et al); b) different types of coping group (e.g. problem-focused, emotional-focused).

Sensitivity analysis: Where substantial heterogeneity exists, sensitivity analysis will be conducted to further investigate potential sources of heterogeneity. Sensitivity analyses will be performed for the primary outcome to determine whether the review conclusions will have differed if

eligibility was restricted to trials with low risk in selection bias. As high levels of heterogeneity were expected due to complexity in the form of cognitive appraisals and illness perceptions, a random effects model will be utilized to pool the overall effects.
However, if the pooling of data was not feasible due to heterogeneity, we carried out descriptively report (narrate) the results of each study. Factors associated (such as individual socio-demographic, self-efficacy, and so on) with coping were synthesized qualitatively.

Country(ies) involved: China.

Keywords: Kidney transplant recipients; illness perception; cognitive appraisa; coping.

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