ABSTRACT

Introduction The number of patients with advanced cancer is rapidly increasing, and the disease burden among those with low socioeconomic status (SES) has accordingly become a global concern. Low SES can adversely impact patients with advanced cancer. The purpose of this systematic review is to shed light on the life experiences of patients with advanced cancer with low SES to help provide targeted and effective strategies to improve their quality of life.

Methods and analysis We will include the following English databases: Cochrane Library, Cumulative Index to Nursing and Allied Health Literature, PubMed, MEDLINE, Embase, Web of Science, Joanna Briggs Institute (JBI) Database of Systematic Reviews, PsycINFO and OpenGrey, and the following Chinese databases: China National Knowledge Infrastructure, VIP Database for Chinese Technical Periodicals and Wanfang Data Knowledge Service Platform. A comprehensive search of qualitative studies on the experiences of patients with advanced cancer with low SES will be conducted from the above databases, with no age limit. Quality assessments of the studies will be independently performed by two reviewers using the JBI Critical Assessment Checklist, and any disagreements will be resolved through a discussion with a third reviewer. Relevant data will be extracted using the JBI standardised data extraction tools. The JBI meta-aggregation tool will be used to compare, analyse and summarise the original results. The reliability and credibility of the overall quality of the studies included will be evaluated using the JBI ConQual approach.

Ethics and dissemination This study is based on existing public literature and therefore does not require a formal ethics review. The results of the study may be presented in peer-reviewed international journals and presented at scientific conferences.

PROSPERO registration number CRD42021250423.

INTRODUCTION

Cancer remains the leading cause of death worldwide, and an estimated 10 million cancer deaths occurred in 2020. The global burden of cancer-related diseases is also increasing. Patients with advanced cancer are those with metastatic or controlled but incurable cancer. Although novel treatment modalities and the quality of care strategies have improved the overall 5-year survival rate of patients with advanced cancer, no curative cancer modality has been developed. Patients with advanced cancer experience adverse health outcomes, and majority do not recover. Within the limited survival period of patients with advanced cancer, the long-term consequences of cancer and its treatment often result in higher symptom loads, including moderate to severe cancer pain, depression, malnutrition, and cancer-related fatigue. These, in turn, result in a significantly decreased quality of life, with severely impaired overall physical, psychological, and social functions and a higher risk of suicidal intentions.

Patients with advanced cancer with low socioeconomic status (SES), that is, those generally either with residence in a deprived regional status or with low income, face more complex problems. Despite their varying types of cancer, patients with advanced cancer with low SES have similar concerns and issues. They often experience
delays in perceiving non-specific symptoms of certain cancers (e.g., fatigue or unexplained weight loss) until the
time of diagnosis.18 19 Further, active clinical treatment is
often associated with higher out-of-pocket costs in these
patients than their high SES counterparts.20–22 A system-
atic review by Iragorri et al.23 showed that patients with
cancer residing in low-income areas spent 42% of their
annual income on cancer-related out-of-pocket expenses.
This was approximately 2.6 times higher than the out-of-
pocket expense-to-annual income ratio for patients with
cancer in high-income areas. Moreover, the debilitating
effects of late illness often lead to unemployment for both
patients and their caregivers,24 25 further lowering the
total household income. In addition, the economic cost
of advanced cancer treatment is only partially covered by
the social security system.22

The negative impact of long-term and costly treat-
ment and low income on the patients’ quality of life is
often multidimensional.25 Some studies have shown
patients’ higher drug non-compliance to save costs (e.g.,
reducing drug use, delaying prescriptions, using alterna-
tive therapies) in patients with advanced cancer with low
SES.20–27 Further, these patients are forced to interrupt or
abandon treatment.28 29 Lower treatment compliance can
have significantly negative health-related consequences,
including increased hospitalisations30 and higher mortality rates.17 A large National Health Survey found
that patients who reported having financial problems
because of cancer care costs were not only more likely to
report lower health conditions, but also had worse mental
health status.31 Severe symptoms of anxiety and depres-
sion lead to poorer quality of life,32 33 which increases the
need for palliative care.34

Despite these adverse effects of low SES, the care plan
for patients with advanced cancer with low SES has not
been clearly defined. Only a few quantitative studies have
explored effective nursing strategies for patients with
advanced cancer, including symptom management35 and
psychosocial care.36 37 However, these methods often do
not meet the daily care needs of patients with advanced
cancer with low SES.38 For example, symptom manage-
ment is continuous and dynamic, and regular medication
use is better for symptom control. However, patients with
advanced cancer with low SES often adjust or delay medi-
cation due to their limited financial resources.26–29 These
patients also often lack access to adequate and continu-
ous psychosocial care services because of socioeconomic
restrictions.40 Some qualitative studies have found more
life difficulties in patients with advanced cancer with low
SES. Van Roij et al reported that patients in their study
felt overwhelmed but were embarrassed when seeking
financial support.25 These patients also often experience
stronger feelings of social exclusion and isolation than
their high SES counterparts.35 In addition, their strategies
for accepting and managing behavioural changes under
such economic hardship may be unique.41 For instance,
the more effective strategies of pain management among
these patients were found as the sensory experience of
pain and the meaning of pain, rather than prescribed
analgesics.39

Therefore, this qualitative review aims to shed light
on the life experiences of patients with advanced cancer
with low SES, in a detailed manner, including disease
distress, barriers and strategies in coping with the disease
distress. Ultimately, the synthesised qualitative evidence
helps provide targeted and appropriate care strategies to
improve patients’ quality of life.

METHODS AND ANALYSIS
This is a qualitative systematic review protocol that follows
the Preferred Reporting Items for Systematic Reviews
and Meta-analysis Protocols checklist to ensure that the
research plan is robust (online supplemental material 1).

Inclusion criteria
Participants We will review all studies that include patients with
advanced cancer, without limitations on the country or
type of cancer.

Phenomenon of interest
This review will include studies that describe the life
experiences of patients with advanced cancer, including
disease distress, barriers and strategies in detail.

Context
The context will consider the life experiences of patients
with advanced cancer with low SES. According to litera-
ture review, most previous studies identified low income
as a feature of low SES.16 17 19 Therefore, low income
will be considered as low SES in this study. Also, due to
the varying standards of low income in different loca-
tions, patients with advanced cancer who are identified
as having a low-income economic status in the original
research will be included in this study.

Types of studies
The review will consider qualitative studies, including,
but not limited to, personal narratives, grounded theo-
dies, ethnographies and feminist research. Only English
and Chinese literature will be included, and there will be
no restrictions on the year of publication.

Patient and public involvement
No patient will be involved in the design, planning and
conception of this study.

Search strategy
The search strategy aims to find both published and grey
literature. An initial search will be conducted using the
PubMed and Cumulative Index to Nursing and Allied
Health Literature (CINAHL) databases. This will be
followed by an analysis of MeSH (Medical Subject Head-
ings) terminologies included in the title and abstract and
index terminology terms used to describe the articles.
A comprehensive search will also be performed, using
the relevant MeSH terminology and index terminology terms, in the following databases: the Cochrane Library, CINAHL, PubMed, MEDLINE, Embase, Web of Science, Joanna Briggs Institute (JBI) Database of Systematic Reviews, PsycINFO, China National Knowledge Infrastructure, VIP Database for Chinese Technical Periodicals, Wanfang Data Knowledge Service Platform and OpenGrey. The complete search strategy for the customisations used in PubMed is presented in online supplemental material 2.

**Study selection**

All the identified studies will be collated and uploaded to EndNote V.X9 software; duplicate studies will be eliminated. Two independent reviewers (ZA and XM) will screen the titles and abstracts according to the inclusion criteria. Articles that do not meet the inclusion criteria will be excluded, and the reason for exclusion will be attached as supplemental material in the final systematic review report. To maintain the credibility of the screening process, all included studies will be screened according to a rigorous process, and any disagreements will be resolved through discussion with a third reviewer (HY).

**Assessment of methodological quality**

Quality assessments prior to inclusion in the review will be performed by two independent reviewers (ZA and XM) according to the 10-item checklist of the JBI Qualitative Assessment and Review Instrument for methodological validity. The checklist assesses different domains, including research methodology, philosophical foundation, data collection, analysis method and result validity (online supplemental material 3). All studies will be evaluated based on whether or not the study being evaluated fulfils the checklist item for each domain. Items in the checklist will be marked as ‘yes’ if the study fulfils the domain criteria, ‘no’ if it does not and ‘unclear’ if the study’s adherence to certain domain criteria cannot be conclusively proven. The result of the evaluation will be determined based on the number of domain items (of a total of 10) that the study fulfils, with a rating of ≤6 considered weak, 7–8 considered moderate and 9–10 considered high quality. Any disagreements will be resolved through a discussion with the third reviewer (HY) until a consensus is reached. For studies that are evaluated as moderate and above, data will be extracted and integrated for analysis.

---

**Figure 1** PRISMA flow diagram of the study process. JBI, Joanna Briggs Institute; PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analysis.
Data collection
Two independent reviewers (ZA and XM) will collect qualitative data related to the research questions and objectives using the JBI qualitative assessment and review instrument from the JBI System for the Unified Management, Assessment and Review of Information.45 The extracted data will include details regarding the populations, contexts, methods, culture, geographical location, study methods and the phenomena of interest (online supplemental material 4). All information obtained will be grouped into tables.

Data synthesis
The collected data will be organised and synthesised using the JBI meta-aggregation method.41 Before integration, two independent reviewers (ZA and XM) will read the articles to understand the full text. They will then summarise the quality of the results and divide them into three levels: unequivocal, equivocal and unsupported. These results will then be further classified to arrive at a set of meaningful concepts that are consistent with those of the original manuscript. These similar categories are eventually integrated to produce a comprehensive set of findings that can improve the living experiences of patients with advanced cancer with low SES.

Assessing the accuracy of results
Ultimately, the reliability of the findings will be evaluated based on the JBI ConQual approach,45 which evaluates the reliability and credibility of the findings. The confidence level of the final study results will be classified into four scales of high, moderate, low or very low (online supplemental material 5). The process will be completed by two independent reviewers (ZA and XM), and any disagreement will be resolved through a discussion. The entire protocol process is illustrated in figure 1.

Reporting of protocol
The findings of the comprehensive review in this qualitative study will be reported in accordance with the Enhancing Transparency in Reporting the Synthesis of Qualitative Research46 guideline to ensure that the review and research is robust (online supplemental material 6).

ETHICS AND DISSEMINATION
This systematic review will identify and integrate the life experiences of patients with advanced cancer with low SES to understand the other issues and needs of such a vulnerable population, apart from financial barriers, to provide targeted care to improve patients’ quality of life. The findings will be published in a peer-reviewed journal or presented at scientific conferences.

Contributors ZA and XM contributed equally to this work. ZA and XM contributed to the conception and design of the study. The introduction was written by ZA and XM. The methods, including literature retrieval, data extraction and appraisal, risk offset assessment and data synthesis, were drafted by HY and LY. In addition, PF, LY and HY assisted in clarifying differences to avoid errors. All authors contributed to the final manuscript and agreed with its publication.

Funding This work was supported by the Health Commission of Hubei Province Scientific Research Project (grant number WJ2019M176).

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Not commissioned; externally peer reviewed.

Supplemental material This content has been supplied by the author(s). It has not been vetted by BMJ Publishing Group Limited (BMJ) and may not have been peer-reviewed. Any opinions or recommendations discussed are solely those of the author(s) and are not endorsed by BMJ. BMJ disclaims all liability and responsibility arising from any reliance placed on the content. Where the content includes any translated material, BMJ does not warrant the accuracy and reliability of the translations (including but not limited to local regulations, clinical guidelines, terminology, drug names and drug dosages), and is not responsible for any error and/or omissions arising from translation and adaptation or otherwise.

Open access This is an open access article distributed in accordance with the Creative Commons Attribution Non Commercial (CC BY-NC 4.0) license, which permits others to distribute, remix, adapt, build upon this work non-commercially, and license their derivative works on different terms, provided the original work is properly cited, appropriate credit is given, any changes made indicated, and the use is non-commercial. See: http://creativecommons.org/licenses/by-nc/4.0/.

ORCID ids
Zifen An http://orcid.org/0000-0002-1624-8153
Xianmei Meng http://orcid.org/0000-0003-0036-2733
Pei Fang http://orcid.org/0000-0003-1922-4955
Huidan Yu http://orcid.org/0000-0002-5353-3025
Liping Yu http://orcid.org/0000-0002-3202-3472

REFERENCES
44 Pearson A. Balancing the evidence: incorporating the synthesis of qualitative data into systematic reviews. JBI Reports 2004;2:45–64.