Appendix 1: completed SRQR checklist

Standards for Reporting Qualitative Research (SRQR)*
http://www.equator-network.org/reporting-guidelines/srqr/

	Page/line no(s).
Title and abstract	
Title - Concise description of the nature and topic of the study Identifying the study as qualitative or indicating the approach (e.g., ethnography, grounded theory) or data collection methods (e.g., interview, focus group) is recommended	Page 1
Abstract - Summary of key elements of the study using the abstract format of the intended publication; typically includes background, purpose, methods, results, and conclusions	2-3
Introduction	
Problem formulation - Description and significance of the problem/phenomenon studied; review of relevant theory and empirical work; problem statement	3-6
Purpose or research question - Purpose of the study and specific objectives or questions	6
Methods	
Qualitative approach and research paradigm - Qualitative approach (e.g., ethnography, grounded theory, case study, phenomenology, narrative research) and guiding theory if appropriate; identifying the research paradigm (e.g., postpositivist, constructivist/ interpretivist) is also recommended; rationale**	7
Researcher characteristics and reflexivity - Researchers' characteristics that may influence the research, including personal attributes, qualifications/experience, relationship with participants, assumptions, and/or presuppositions; potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability	7
Context - Setting/site and salient contextual factors; rationale**	7-8
Sampling strategy - How and why research participants, documents, or events were selected; criteria for deciding when no further sampling was necessary (e.g., sampling saturation); rationale**	8-9
Ethical issues pertaining to human subjects - Documentation of approval by an appropriate ethics review board and participant consent, or explanation for lack thereof; other confidentiality and data security issues	11
Data collection methods - Types of data collected; details of data collection procedures including (as appropriate) start and stop dates of data collection and analysis, iterative process, triangulation of sources/methods, and modification of procedures in response to evolving study findings; rationale**	9

Data collection instruments and technologies - Description of instruments (e.g., interview guides, questionnaires) and devices (e.g., audio recorders) used for data collection; if/how the instrument(s) changed over the course of the study	9
Units of study - Number and relevant characteristics of participants, documents, or events included in the study; level of participation (could be reported in results)	12-13, 28-29
Data processing - Methods for processing data prior to and during analysis, including transcription, data entry, data management and security, verification of data integrity, data coding, and anonymization/de-identification of excerpts	9-10
Data analysis - Process by which inferences, themes, etc., were identified and developed, including the researchers involved in data analysis; usually references a specific paradigm or approach; rationale**	10
Techniques to enhance trustworthiness - Techniques to enhance trustworthiness and credibility of data analysis (e.g., member checking, audit trail, triangulation); rationale**	10-11

Results/findings

Synthesis and interpretation - Main findings (e.g., interpretations, inferences, and themes); might include development of a theory or model, or integration with prior research or theory	16-18
Links to empirical data - Evidence (e.g., quotes, field notes, text excerpts, photographs) to substantiate analytic findings	16-18

Discussion

Integration with prior work, implications, transferability, and contribution(s) to the field - Short summary of main findings; explanation of how findings and conclusions connect to, support, elaborate on, or challenge conclusions of earlier scholarship; discussion of scope of application/generalizability; identification of unique contribution(s) to scholarship in a discipline or field	18-21
Limitations - Trustworthiness and limitations of findings	21

Other

Conflicts of interest - Potential sources of influence or perceived influence on study conduct and conclusions; how these were managed	22
Funding - Sources of funding and other support; role of funders in data collection, interpretation, and reporting	22

*The authors created the SRQR by searching the literature to identify guidelines, reporting standards, and critical appraisal criteria for qualitative research; reviewing the reference
lists of retrieved sources; and contacting experts to gain feedback. The SRQR aims to improve the transparency of all aspects of qualitative research by providing clear standards for reporting qualitative research.

**The rationale should briefly discuss the justification for choosing that theory, approach, method, or technique rather than other options available, the assumptions and limitations implicit in those choices, and how those choices influence study conclusions and
transferability. As appropriate, the rationale for several items might be discussed together.

Reference:

O'Brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. **Standards for reporting qualitative research: a synthesis of recommendations.** *Academic Medicine*, Vol. 89, No. 9 / Sept 2014
DOI: 10.1097/ACM.0000000000000388

Appendix 2: Semi-Structured Interview Guide (Version 3.3)

Research Title: A phenomenological qualitative study of primary informal caregiver of Chinese patients with advanced chronic obstructive pulmonary disease (COPD): An in-depth exploration of experiences and needs

I. Pre-Interview Preparation

1. Obtaining informed consent:

(1) Introduce the study's purpose, methods, confidentiality measures, and potential risks and benefits to the caregiver.
(2) Seek explicit voluntary consent to participate in the interview and have them sign the informed consent form.
(3) Obtain their permission to record the interview.

2. Building trust:

(1) Clarify the interviewer's neutral position and commit to respecting and keeping the caregiver's opinions and information confidential.
(2) Create a relaxed and comfortable interview atmosphere through friendly conversation and attentive listening.

II. Interview Structure and Questions

Part 1: Basic Information Collection

(1) **Relationship with the Patient:** How did you establish a caregiving relationship with the patient? What is your primary role?
(2) **Duration and Frequency of Caregiving:** When did you start caring for the patient? Approximately how much time do you dedicate daily/weekly to caregiving?

Part 2: Caregiving Experiences

(1) **Initial reactions:** How did you feel when you first learned about the patient's illness? Did you experience worry, confusion, or other emotions?
(2) **Long-term emotional burden:** Have you experienced specific emotional highs or lows during long-term caregiving? Could you share any situations that left a deep impression on you?
(3) **Coping strategies:** How do you manage and adjust to emotional fluctuations?
(4) **Knowledge anxiety:** Have you encountered situations where you lacked knowledge about the disease, caregiving skills, or emergency management? How did this affect you psychologically?
(5) **Decision-making pressure:** Did you feel stressed when making significant health-related decisions for the patient? How did you approach these decisions?
(6) **Social and family impact:** Has caregiving affected your social activities, career development, or family relationships? Please describe these impacts and their psychological effects.
(7) **Daily care tasks:** What specific caregiving tasks do you usually undertake? What physical demands do these tasks place on you?
(8) **Time management challenges:** How do you balance caregiving with your personal life and work? Do you face time constraints or scheduling difficulties?
(9) **Sleep quality and health:** Has caregiving affected your sleep quality and personal health? If so, how?

Part 3: Needs

(1) **Knowledge needs:** What knowledge about COPD management, complication prevention, or medication usage would you like to learn?
(2) **Skills needs:** What caregiving skills or emergency handling techniques do you feel are particularly necessary to learn or improve?
(3) **Emotional counseling:** Would you like to receive professional psychological counseling or emotional support services? What format would you prefer for these services?

(4) **Mutual support networks:** Are you interested in connecting with other caregivers to share experiences and provide mutual support? How could such a platform be better established?
(5) **Community resources:** What community resources do you think could better serve caregivers? What is missing or needs improvement?
(6) **Policy support:** What policy support do you hope the government or related organizations could provide, such as caregiving subsidies, paid leave, or professional training?

III. Interview Considerations

(1) **Maintain neutrality and respect:** Avoid leading questions, respect the caregiver's opinions and feelings, and refrain from judging their behavior or decisions.
(2) **Flexibility:** Adjust the order or depth of questions based on the caregiver's responses to ensure a natural and smooth interview.
(3) **Record and verify:** Keep detailed interview notes and ask the caregiver to verify the accuracy of key information if necessary.
(4) **Observe body language:** Pay attention to non-verbal cues, such as facial expressions and body movements, to better understand the caregiver's emotions and attitudes. Note the time or context of such signals for later analysis.
(5) **Provide timely feedback:** At the end of the interview, briefly summarize the caregiver's main points, confirm their accuracy, and thank them for their participation.
(6) **End recording promptly:** Ensure the recording device is turned off after the participant leaves.
(7) **Post-interview transcription:** Within 24 hours after the interview, transcribe the recording verbatim, including notes on non-verbal signals recorded during the interview for detailed analysis later.