

Interview Outline for Medical Staff

Hello! Thank you for taking the time to participate in this interview. I am a student from the School of Psychology, Shenzhen University. This interview mainly aims to understand the application of AI in maternal health, as well as your views and suggestions on relevant technologies. The whole interview is expected to last 30 minutes. All your thoughts are valuable to us, so just treat it as a casual chat without any scruples. Speak your mind freely—there are no right or wrong answers. We will not disclose any of your information or privacy, and keep it strictly confidential. Your statements will only be used in this research project. If we need to quote your original words, we will use numerical codes and pseudonyms.

ID:

Group:

Gender:

Age:

Place of Birth:

Current Residence:

Education:

Professional Background:

Professional Title:

Workplace:

Years of Work Experience:

Job Responsibilities:

Part 1 Basic Personal Information and Professional Background

1. Please introduce your age, place of birth and current residence.
2. What is your educational background? (No education, Basic education, Vocational training (Secondary vocational, Higher vocational, Junior college), Bachelor's degree, Master's degree, Doctoral degree)
3. What is your major and professional title?
4. Where do you work? How long have you been working? What are your main job responsibilities?

Part 2 Cases of Pregnant and Puerperal Women and Emotional Observations in Work

1. Among the pregnant and puerperal women you have contacted, what is the approximate proportion of those with emotional fluctuations or stress-related problems? In your impression, which stage of pregnancy are women more likely to have emotional problems?
2. Do you think the existing medical guidance and support for maternal emotional health in your institution are sufficient? What are the main challenges you face in providing emotional support and guidance for pregnant and puerperal women in daily work?

Possible follow-up questions:

- (When AI is not used in maternal emotional health work), which aspects of work can AI liberate manpower or provide help?
- (When mentioning the role of family members in maternal mental health), how can AI systems interact and communicate with family members to help improve their understanding and support for maternal mental health?

Primary Prevention Interview Outline

Part 1 Popularization of Maternal Mental Health Knowledge in Work

1. What methods do you usually use to carry out maternal mental health education and popularization?
(Such as lectures, brochures, online courses, etc.) How do you evaluate the coverage and effect of current mental health education?
2. What do you think is the biggest difficulty in the current popularization of maternal mental health education?
(Such as low participation of pregnant and puerperal women, inaccurate knowledge dissemination, etc.)
3. What AI technologies or tools have you been exposed to that can be used for the popularization of maternal mental health knowledge?
(Such as intelligent education software, publicity content generation tools, etc.)

Please briefly introduce the application scenarios.

4. What do you think of the effect of these AI technologies or tools in popularizing maternal mental health knowledge? Can they meet work needs?

Part 2 Cognition of AI Technology Application in Primary Prevention

1. How did you learn about these AI technologies? (Training, academic exchanges, actual work needs, etc.)

2. What AI technologies or tools have you been exposed to that can be used for the scientific popularization

of maternal mental health knowledge?

(Such as intelligent education software, publicity content generation tools, AI virtual humans, etc.) Please briefly introduce the application scenarios. If not, do you think health popularization can be linked through AI technology? How?

3. In what form are the AI technologies you have been exposed to presented? (Such as APP push, virtual lecturer, AI video courses, etc.)

4. Has your institution introduced AI-related technologies or equipment for maternal mental health education and popularization? What is the effect of these AI tools in education popularization?

Can they meet your work needs?

5. Have you encountered any problems or challenges in using these AI technologies or tools?

(Such as technical operation difficulty, content adaptability, etc.) If yes, how did you deal with them?

Part 3 Interaction Between AI and Pregnant/Puerperal Women and Their Families

1. When using AI technology for mental health education and popularization, what is the acceptance and usage frequency of pregnant/puerperal women and their families? Have you encountered any difficulties?

(Such as doubts about AI display content)

Part 4 Attitudes Towards AI Application in Primary Prevention

1. In your opinion, what help can AI provide to improve the popularization level of maternal mental health education?

(Such as expanding popularization scope, improving knowledge dissemination efficiency, etc.)

2. What is your degree of trust in maternal mental health education popularization plans formulated with the assistance of AI? Under what circumstances do you prefer to rely on AI suggestions, and under what circumstances do you trust your professional judgment more?

3. How do you view the role of AI in health popularization education? (For example, with the introduction of AI, how do you think the core responsibilities of medical staff will change? Does the division of labor of medical staff need to be redefined?)
4. What do you think are the respective advantages and limitations of AI and your own work in popularizing maternal mental health knowledge?

Part 5 Ethical and Privacy Issues in AI Technology Application

1. What specific measures do you think AI technology platforms need to take to protect patient privacy?
(Such as data encryption, anonymization, etc.)
2. Do you worry about the abuse or sharing of patient data when using AI technology?
3. How do you think pregnant and puerperal women can be more transparently informed of data usage and protection mechanisms when using AI for maternal mental health education?
4. Do you think the use of AI technology will cause medical safety issues?

Part 6 Future Outlook on AI Technology Application

1. In which aspects do you hope AI can be further applied to maternal mental health education and popularization? (Such as personalized education content push, interactive education experience, etc.)
2. How do you view the future development of AI technology in maternal mental health management? How should relevant departments support its implementation?
3. What types of training support do medical staff need when using AI technology?
How to improve technology acceptance?
4. What role do you think you should play in the application of AI technology to maternal mental health education and popularization? How to improve your own abilities to better adapt to technological development?
5. How to better balance the relationship between technological development and humanistic care in the promotion and application of AI technology?

Closing Remarks

Among all the content we discussed, what do you think is the most important? Have we missed anything?

Do you have anything to add?

Thank you again for taking the time to participate in this interview. The information you provided is very valuable to our research. We will also keep your answers strictly confidential.

If we have relevant questions later, we may contact you again.

We hope you don't mind. Wish you all the best in your work!

Secondary Prevention Interview Outline

Part 1 Maternal Mental Health Screening and Early Identification in Work

Supplementary question: During the screening process, do you think AI can make up for the deficiencies of existing scales, such as through real-time emotion recognition?

1. What are the current mental health screening methods used for pregnant and puerperal women you have contacted? What is the frequency?
2. In the process of mental health screening, do you think the existing screening methods can accurately and timely detect maternal mental health problems? What are the deficiencies?
3. What AI technologies or tools have you been exposed to for maternal mental health screening and early identification?

(Such as intelligent screening questionnaire system, emotion monitoring equipment, etc.)

Please briefly introduce the application scenarios.

4. What do you think of the effect of these AI technologies or tools in maternal mental health screening and early identification? Can they meet work needs?

5. How can AI optimize the follow-up management of high-risk patients after screening?

(For example, for high-risk patients screened out, help track emotional changes through dynamic emotion monitoring functions (such as voice and behavior analysis)?

Can compliance be improved through personalized reminders?)

Part 2 Cognition of AI Technology Application in Secondary Prevention

1. How did you learn about these AI technologies? (Training, academic exchanges, actual work needs, etc.)

2. Has your institution introduced AI-related technologies or equipment for maternal mental health screening

and early identification? If yes, please introduce some specific situations. (Is the operation convenient?

Are there any functions or processes that need further optimization?) If not, do you think mental health screening can be linked through AI technology? How?

3. (Only answer questions 3 to 5 if applicable) Do you think the reliability and validity of existing AI screening tools meet clinical screening standards?

4. Do you worry about data bias or false positive problems when using AI screening tools?

Have you encountered other problems or challenges? (Such as technical operation difficulty, maternal acceptance, etc.) If yes, how did you deal with them?

5. What improvement suggestions do you have for current AI screening tools?

Part 3 Interaction Between AI and Pregnant/Puerperal Women and Their Families

1. When using AI technology for mental health screening and early identification, what is the acceptance and cooperation of pregnant/puerperal women and their families?

Have you encountered any difficulties? (Such as doubts about AI screening results)

Part 4 Attitudes Towards AI Application in Secondary Prevention

1. In your opinion, what help can AI provide to improve the level of maternal mental health screening and early identification? (Such as improving screening efficiency and accuracy, etc .)

2. What is your degree of trust in maternal mental health screening results and intervention suggestions obtained with the assistance of AI? Under what circumstances do you prefer to rely on AI suggestions, and under what circumstances do you trust your professional judgment more?

3. How do you view the role of AI in mental health screening and early identification?

(For example, with the introduction of AI, how do you think the core responsibilities of medical staff will change? Does the division of labor of medical staff need to be redefined?)

4. What do you think are the respective advantages and limitations of AI and your own work in maternal mental health screening and early identification?

5. How can positive results after AI screening be more effectively guided to psychological intervention

(Tertiary Prevention)? (Can AI tools further play a role in follow-up reminders and high-risk management?)

Part 5 Ethical and Privacy Issues in AI Technology Application

1. What specific measures do you think AI technology platforms need to take to protect patient privacy?

(Such as data encryption, anonymization, etc.)

2. Do you worry about the abuse or sharing of patient data when using AI technology?

3. How do you think pregnant and puerperal women can be more transparently informed of data usage and protection mechanisms when using AI for maternal mental health screening?

4. Do you think the use of AI technology will cause medical safety issues?

5. What aspects do you think patients care about most regarding privacy?

What room for improvement do you think AI has in privacy protection?

How to improve patients' trust in AI through education?

Part 6 Future Outlook on AI Technology Application

1. In which aspects do you hope AI can be further applied to maternal mental health screening and early identification? (Such as more accurate screening models, remote screening technology, etc.)

2. How do you view the future development of AI technology in maternal mental health management? How should relevant departments support its implementation?

3. What types of training support do medical staff need when using AI technology?

How to improve technology acceptance?

4. What role do you think you should play in the application of AI technology to maternal mental health screening and early identification? How to improve your own abilities to better adapt to technological development?

5. How to better balance the relationship between technological development and humanistic care in the promotion and application of AI technology?

Closing Remarks

Among all the content we discussed, what do you think is the most important? Have we missed anything?

Do you have anything to add?

Thank you again for taking the time to participate in this interview. The information you provided is very valuable to our research. We will also keep your answers strictly confidential.

If we have relevant questions later, we may contact you again.

We hope you don't mind. Wish you all the best in your work!

Tertiary Prevention Interview Outline

Part 1 Maternal Psychological Intervention and High-Risk Management in Work

1. What methods do you usually use to intervene pregnant and puerperal women with mental health problems?

What is the effect? What special management measures have been taken for high-risk pregnant women?

2. What do you think is the biggest challenge currently faced in the process of psychological intervention and high-risk management? (Such as poor patient compliance, limited intervention methods, etc.)

3. What AI technologies or tools have you been exposed to for maternal psychological intervention and high-risk management? (Such as intelligent psychological intervention system, AI self-service emotion regulation tool) Please briefly introduce the application scenarios.

4. What do you think of the effect of these AI technologies or tools in maternal psychological intervention and high-risk management? Can they meet work needs?

Part 2 Cognition of AI Technology Application in Tertiary Prevention

1. How did you learn about these AI technologies? (Training, academic exchanges, actual work needs, etc.)

2. Has your institution introduced AI-related technologies or equipment for maternal psychological intervention and high-risk management? If yes, please introduce some specific situations. (Is the operation convenient? Are there any functions or processes that need further optimization?) If not, do you think psychological intervention can be linked through AI technology? How?

3. (Only answer questions 3 to 4 if applicable) Have you encountered any problems or challenges in using these AI technologies or tools? (Such as technical operation difficulty, effectiveness of intervention plans, maternal acceptance, etc.) If yes, how did you deal with them?

4. For different levels of mental health risks (such as mild emotional fluctuations vs. severe depression), how do you think AI intervention tools should be applied hierarchically?

Part 3 Interaction Between AI and Pregnant/Puerperal Women and Their Families

How to establish trust in AI among patients and family members during crisis intervention?

In which links are ethical challenges mainly reflected?

1. When using AI technology for psychological intervention and high-risk management, what is the acceptance and cooperation of pregnant/puerperal women and their families?

Have you encountered any difficulties? (Such as doubts about intervention plans provided by AI)

Part 4 Attitudes Towards AI Application in Tertiary Prevention

1. In your opinion, what help can AI provide to improve the level of maternal psychological intervention

and high-risk case management? (Such as providing personalized intervention plans, improving risk management efficiency, etc.)

2. How do you view the role of AI in psychological intervention? (For example, with the introduction of AI, how do you think the core responsibilities of medical staff will change? Does the division of labor of medical staff need to be redefined?)

3. What is your degree of trust in maternal psychological intervention plans formulated with the assistance of AI? Under what circumstances do you prefer to rely on AI suggestions, and under what circumstances do you trust your professional judgment more?

4. What do you think are the respective advantages and limitations of AI and your own work in maternal psychological intervention?

5. In psychological crisis intervention management, in which aspects do you think AI can assist medical staff, and in which aspects still need manual judgment?

Part 5 Ethical and Privacy Issues in AI Technology Application

1. What aspects do you think patients care about most regarding privacy?

What room for improvement do you think AI has in privacy protection?

How to improve patients' trust in AI through education?

2. What specific measures do you think AI technology platforms need to take to protect patient privacy?

(Such as data encryption, anonymization, etc.)

3. Do you worry about the abuse or sharing of patient data when using AI technology?

4. How do you think pregnant and puerperal women can be more transparently informed of data usage and protection mechanisms when using AI for maternal mental health screening?
5. Do you think the use of AI technology will cause medical safety issues?

Part 6 Future Outlook on AI Technology Application

1. In which aspects do you hope AI can be further applied to maternal psychological intervention and high-risk management? (Such as intelligent tracking of intervention effects, remote psychological therapy technology, etc.)

2. How do you view the future development of AI technology in maternal mental health management?

How should relevant departments support its implementation?

3. What types of training support do medical staff need when using AI technology?

How to improve technology acceptance?

4. What role do you think you should play in the application of AI technology to maternal psychological intervention and high-risk management? How to improve your own abilities to better adapt to technological development?

5. How to better balance the relationship between technological development and humanistic care in the promotion and application of AI technology?

Supplementary Questions

1. How should the role of AI in psychological intervention for high-risk patients be defined?

Is it necessary to formulate ethical guidelines to avoid misleading or delaying treatment?

2. How should the role of AI in high-risk case management be combined with manual intervention?

Is it necessary to dynamically adjust the intervention intensity?

3. When dealing with patients with severe postpartum depression or suicidal tendencies, in which aspects do you think AI can provide support for psychiatrists?

4. Do you think AI can optimize diagnosis and treatment plans by integrating patients' multi-dimensional data (such as psychological assessment, medical history, social information)?

If yes, what are the specific application scenarios?

5. When formulating psychological intervention plans, do you want AI to provide personalized treatment suggestions?

What data dimensions should these suggestions be based on (such as medical history, cultural background, family support, etc.)?

6. In high-risk patient management, what do you think is the best collaboration model between AI and doctors?

Should AI complete basic tasks or more in-depth support?

Closing Remarks

Among all the content we discussed, what do you think is the most important? Have we missed anything?

Do you have anything to add?

Thank you again for taking the time to participate in this interview. The information you provided is very valuable to our research. We will also keep your answers strictly confidential.

If we have relevant questions later, we may contact you again.

We hope you don't mind. Wish you all the best in your work!

Interview Outline for Perinatal Women

Hello! Thank you for taking the time to participate in this interview. I am a student from the School of Communication, Shenzhen University. This interview mainly aims to understand your views on using AI to monitor and intervene in the attitudes of perinatal women. The whole interview is expected to last 40 minutes. All your opinions are valuable to us, so just treat it as a casual chat without any scruples. You can say whatever comes to your mind, and there are no right or wrong answers. We will not disclose any of your information or privacy, and keep it strictly confidential. Your statements will only be used in the research project. If we need to quote some of your original words, we will use digital numbers and pseudonyms.

ID:

Group:

Age:

Whether you are a patient with complications/comorbidities:

Notes

This is an interview outline. The specific wording of the questions may be adjusted as the project progresses and according to the participants' answers. This outline will serve as a guideline for researchers to ensure that all important topics are covered even if the order or way of asking questions needs to be adjusted.

Part 1 Personal Background Information

- Please introduce your age, place of birth and current place of residence.
- What is your education level? (No education, Primary education, Vocational training, Bachelor's degree, Master's degree, Doctoral degree)
- Are you a patient of public health service institutions, private medical service institutions, or both?

Part 2 Pregnancy and Childbirth Experience

- Is this your first pregnancy? If not, how long has it been since your last delivery?
- How was your experience of the whole pregnancy and childbirth process?
- During childbirth, did you know or remember that the doctor used any specific technologies to monitor your physical and emotional state? Have you ever wanted to learn more about these tools? Why?

Part 3 Emotional Health Experience

- Have you experienced mood swings or stress during pregnancy?
- What were these about?

- What measures did you take to relieve these feelings of pessimism and emotional changes?

For example, did you seek help from people around you?

- Did they give you any specific support?

- Did they provide any help with information?

Part 4 Medical Technology Usage

- Do you use technical devices very frequently in daily life, such as mobile phones, TVs, video games, etc.?

- What channels do you usually use on your mobile phone to actively manage your emotional health? For example, watching short videos, reading official accounts, chatting with doctors, etc.

- Do you think these methods can meet your needs?

- Have you ever heard that many medical institutions are now providing care for pregnant women?

- Have you taken the initiative to learn about or download and use relevant APPs?

- Are you satisfied with the experience of the questionnaire?

- How important do you think emotional health management is during pregnancy?

- There is now an APP that can recognize your emotional state in real time, and take the initiative to remind you and send an alert when your mood is low as you just mentioned.

Would you be interested in it and take the initiative to use it?

- If it can provide you with targeted suggestions or relaxation methods in a timely manner according to your emotional state, such as meditation, emotional diary, positive psychological suggestion, etc., would you trust and adopt them?

- Do you prefer these methods to be provided in the form of voice, text, pictures or videos?

- It can share your emotional information with doctors. One way is that the doctor will receive your real-time emotional report as soon as you monitor it. The other way is that you decide which information to share with the doctor and which to keep for yourself after monitoring. Which one do you think is better?

- What additional functions do you hope this APP can provide?

- Which aspects of AI are you more likely to give positive comments on? What functions of AI do you value more?

- How would you feel if offline doctors used AI tools to assist you in emotional management when taking care of you during the perinatal period?

- For example, who is the developer of this AI? Will this information affect your views on this AI tool?

- Have you ever paid for any type of health information service before?

- If you use AI in the future, some content may require payment to learn about perinatal emotional care. Would you be willing to pay for it?

- Do you hope to use such emotional monitoring products to assist you in emotional health management? Do you hope to remind them with information such as reports