Tehran University of Medical Sciences

Nursing Practice Today

2022; Volume 9, No 3, pp. 221-233

Original Article

A study on the artificial intelligence interview experience of nursing students in the COVID-19 situation

So Young Park[1], Miyoung Park[2], Nam Young Choi[2], Sun Jung Park[3]*

[1]Department of Nursing, Yong-in Arts & Science University, Yong-in, Republic of Korea
[2]Department of Nursing, Gangneung Yeongdong University, Gangneung, Republic of Korea
[3]College of Nursing, Samyuk Health University, Seoul, Republic of Korea

ARTICLE INFO

Received 21 February 2022
Accepted 26 April 2022

Available online at:
http://npt.tums.ac.ir

Keywords:
artificial intelligence;
experience;
students;
nursing

***Corresponding Author:**
Sun Jung Park, College of Nursing, Samyuk Health University, Seoul, Republic of Korea.
E-mail: bun8973@naver.com

DOI:
https://doi.org/10.18502/npt.v9i3.10224

ABSTRACT

Background & Aim: This study aims to examine the perception of artificial intelligence interviews experienced by prospective nursing graduates who have experienced artificial intelligence interviews at medical institutions using focus groups and provide necessary data to increase the efficiency of artificial intelligence interviews.
Methods & Materials: This study was conducted to examine nursing students' artificial intelligence interview experience during COVID-19 by performing a focus group interview and qualitative content analysis. The focus group interview was carried out on November 17, 2021, to understand nursing students' artificial intelligence interview experience during COVID-19, selecting a total of 14 senior nursing students.
Results: As a result of analyzing the artificial intelligence interview experiences of nursing students who participated in this study, 35 codes, grouped into eight subcategories, were derived. They are also classified into three categories 1) Finding your way in the dark, 2) Confronting artificial intelligence, and 3) Going beyond artificial intelligence. The eight subcategories derived are as follows: 1) Vagueness, 2) Find your way, 3) The fight between artificial intelligence and me, 4) Strong questions about interview evaluation, 5) New experience, 6) Learn your own tricks for artificial intelligence interviews, 7) Setting up the environment for artificial intelligence interview, 8) Establishment of information system for artificial intelligence interview.
Conclusion: Based on the results of this study, an educational program should be developed based on the main data obtained from the artificial intelligence interview experience so that nursing college students can adapt to the artificial intelligence interview.

Introduction

We are now going beyond the medical sector's situation of the emergence of new infectious diseases due to the COVID-19 pandemic situation and are experiencing historical watershed events that divide not only the changes in the pre-and post-COVID-19 era (1) but also globalization 1.0 and 2.0. As a result, paradigm changes are taking place in health care and politics, economy, society, culture, and customs (2).

The Korean government has implemented a high-intensity social distancing policy in accordance with the spread of COVID-19 infection and the long-term epidemic, bringing about the introduction and routinization of non-face-to-face methods throughout society. Therefore, face-to-face classes are difficult to operate in the field of education, and online classes are being conducted in parallel as a countermeasure to face-to-face classes (3). Accordingly, most

Please cite this article as: Young Park S, Park M, Young Choi N, Jung Park S. A study on the artificial intelligence interview experience of nursing students in the COVID-19 situation. Nursing Practice Today. 2022; 9(3):221-233

students and teachers are getting used to the technical aspects of online education. These non-face-to-face approaches are a problem facing the field of education and prospective graduates who are about to get a job. In particular, most companies, including medical institutions that need to hire new nurses, face the problem of non-face-to-face methods. As a result, AI (Artificial Intelligence) interviews increased significantly (4).

AI is a term first used by John McCarthy at the 1956 Dartmouth conference and is "a computer program that mimics human intelligent thinking and behavior" (5). Since then, AI has been defined by experts and scholars in various fields, which can be said to be "a technology that implements intellectual abilities such as human perception, reasoning, and learning ability using computers" (6). Today's AI is a concept that encompasses big data, deep learning, and reinforcement learning, causing cultural changes for both individuals and organizations (7).

In the course of HRM (Human Resource Management), the use of AI is more economically efficient, so HRA (Human Resource Analysis) using big data for decision-making related to organizational members has begun to attract attention (8). The official name of the commonly used "AI interview" is "AI-based competency test," which mainly refers to using AI to analyze the applicant's propensity and job suitability (9).

By analyzing video interviews with AI and conducting objective and fair recruitment procedures that are not affected by the applicant's race, gender, and appearance, using AI is to minimize errors that humans can make. In particular, the frequency and meaning of the words used by the applicant are analyzed and used to identify the nature of the applicant. It is difficult to grasp the intention of the questions, and there are no "correct answers" in an AI interview, so applicants do not need to learn and make choices in order to "look good" to interviewers, preventing the emergence of "social desirability" (8). Therefore, if it is used well, prejudice can be reduced in the hiring process, and personnel management, efficiency, and fairness can be obtained.

Various types of interviews are being used in the recruitment process to select talented people who can adapt and harmonize well within the organization. Interviews have a great influence on the organization's recruitment decision-making, so applicants should prepare well (10). In line with this, medical institutions employing new nurses are also conducting AI interviews, one of the non-face-to-face interviews, and applicants are experiencing AI interviews. Therefore, it is necessary to identify the contents of AI interviews and perceptions of AI interviews they experienced by using students who have experienced AI interviews in focus groups as prospective nursing graduates.

Focus groups allow researchers to easily access the reality they want to understand through interactions with others. Conversations occurring in focus groups when complex behavior or motivation needs to be fact-finding provide information on the motivation and behavioral methods underlying people's behavior. In addition, it has the advantage of being able to learn new facts by exchanging participants' motivations, feelings, and opinions with each other and collecting abundant data on a specific topic in a short period of time through group discussions (11). This study aims to examine the perception of AI interviews experienced by prospective nursing graduates who have experienced AI interviews at medical institutions using focus groups and provide necessary data to increase the efficiency of AI interviews.

Methods

Research design

This study is a qualitative study using the focus group interview method.

Research participants

Research Participants were recruited through notification of the department website and group chat room of their recommendation. These are students who voluntarily agreed to participate in the interview. A total of 14 senior nursing students enrolled in two nursing located in Gyeonggi-do and Gangwon-do who had AI interviews to get a job were selected as the focus group. Interviews were conducted through real-time video conferences (ZOOM). After sufficiently explaining the study's purpose, method, content, and recording procedure in advance, written consent was obtained from the participants. The focus group was divided into two groups, and the study was conducted. As a result of interviewing them, no additional interviews were conducted when no new data were available in the second focus group interview data. Referring to the literature, the number of participants per group is 4 to 12 (12), it was composed of 4 or more per group, and each group was interviewed once.

Data collection

Qualitative research can be defined as a naturalistic inquiry to discover important underlying meanings of participants and to understand and interpret them in-depth in consideration of the circumstances and contexts (11). Qualitative research focuses on understanding and interpreting the underlying meanings in the light of the circumstances and contexts around participants (12). As one of the qualitative research methods, the focus group research method can obtain qualitative data by deriving various experiences and opinions of participants through their interaction during a group discussion (11). A focus group interview requires a carefully designed plan, as it aims to collect data on a topic of interest to the researcher; a well-planned discussion can bring about a large amount and diverse experiences and views on the category (12). Even if the researcher has limited knowledge of the category, a useful discussion for discovering and exploring problems can be initiated. Insight into major issues and problems can be gained, leading to a relatively less structured and more open discussion (12). In addition, dynamic interaction stimulates participants' thoughts on the topic to recall their experiences and respond to others' points of view, providing fresh new ideas to the researcher (11). Even though it has an advantage in that the participants can exchange and compare various opinions during a group discussion, it also has the disadvantage of fundamentally limiting individuals' characteristics, requiring additional personal interviews to compensate (12). There are usually 6-10 interviewees in a focus group; however, organizing a smaller group of 6 or less may be more effective if the participants are experts closely related to the category (11).

Ethical consideration

Interviews were conducted through real-time video conferences (ZOOM). After sufficiently explaining the study's purpose, method, content, and recording procedure in advance, written consent was obtained from the participants. Before starting the interview, the purpose and method of the study were explained again to the study participants. In addition, it was explained that they could quit at any time if desired during the interview and that the collected data are processed so that personal identification is not possible and confidential. It was also explained that all contents would be recorded during the focus group interview, and the recorded contents would be used only for research purposes. Interview items that could identify the interviewee were encoded, and recorded files were stored in a locker. After the interview, all participants were given a gift in return.

Development of interview questions

The researcher organized the development of interview questions by contemplating the principles of questions to be carried out in each order according to the order presented in the focus group research method and clarifying the research questions. The questionnaire was subdivided into five types of questions presented by Krueger & Casey (13): start, introduction, transition, main, and closing, and organized into open questions.

▪ Start Question: "Let's each have time to introduce ourselves." They each decided on the nickname to be called during the interview and started.

▪ Introduction Question: "How is the experience of AI interview for employment in the COVID-19 situation?"

▪ Transition Question: "How was the AI interview experience for employment in the COVID-19 situation? What happened?

▪ Main question: "How did you prepare for the AI interview?", "How do you feel after the AI interview?", "What was the difficulty of the AI interview?", "What was the good thing about the AI interview?", "What do you think is necessary for the AI interview?"

▪ Closing question: "Did you feel satisfied with the experience of AI interviews for employment in the COVID-19 situation?", "We've talked about your AI interview experience so far. Is there anything else you want to say?"

Researcher's training and preparation

Researchers completed qualitative research courses in the graduate school's doctoral course in preparation for conducting this study. Three researchers discussed the qualitative research methodology as a doctoral dissertation and published it in academic journals. In addition, they attended workshops on qualitative research and continued to explore qualitative research with strong interest. They have experience writing papers applying phenomenological research and focus group interview methodology and publishing them in a number of related publications.

Interview process

The focus group consisted of a total of two groups. Nine and five people from each group participated, and it was held on November 17, 2021 through real-time video conferences. Before the interview, the subjects were informed of the focus group interview topic and real-time video address in text messages, and a list of questionnaires was sent to give participants time to think about the topic of discussion.

The focus group interview began with the host's and the interviewee's introduction. The researcher was in charge of the interview, and all the interview contents were recorded. The researcher took notes of important contents among the oral contents of the study participants during the interview. The time spent on focus group interviews was 85 minutes and 120 minutes for each group. Two professors participated in the interview of each group, one professor who participated in the interview conducted the interview, and one assistant interviewed. Before the start of the interview, the host explained that there was no "correct answer" to the question and played a role in facilitating participants to share their thoughts and experiences during the interview. The interview was conducted while the Internet environment and microphone conditions were being checked, and the interview was conducted so that participants could raise their hands to express their opinions smoothly.

Data analysis

In this study, conventional content analysis (11), as one of the qualitative content analysis methods, was used to understand the

AI interview experience of nursing students. The detailed analysis process is as follows.

- Recorded focus group interview data was precisely transcribed, and the whole meaning was examined by repeatedly reading the transcripts.
- Codes were generated and named during the initial coding plan by extracting meaningful words, phrases, and sentences about difficulties related to an AI interview experience from the participant's statements.
- Related codes were grouped, classified, and categorized by comparing the similarities and differences of the generated codes.
- Generated codes and subcategories were defined

The three researchers in this study extracted meaningful statements from the participants by repeatedly reading and contemplating the transcripts, which had undergone a verification process several times. The researchers also went through peer briefings and exchanged feedback (12). The underlying meaning of the extracted statements was identified according to the context. The meanings were grouped together into a topic, and categories were again grouped into a bundle of categories. Finally, sentences were formed by integrating the data according to the categories.

Results

As a result of analyzing the AI interview experiences of nursing students who participated in this study, 17 codes were derived, grouped into eight subcategories, and classified into three categories. The eight subcategories derived are as follows: 1) Vagueness, 2) Find your way, 3) The fight between artificial intelligence and me, 4) Strong questions about interview evaluation, 5) New experience, 6) Learn your own tricks for AI interviews, 7) Setting up the environment for AI interview, 8) Establishment of information system for AI interview. Furthermore, the details of the three categories are 1. Finding your way in the dark, 2. Confronting artificial intelligence, and 3. Going beyond artificial intelligence (Table1).

Table1. Artificial intelligence interview experience of nursing students

Categories	Subcategories	Codes
Finding your way in the dark	Vagueness	I didn't know how to pass through within the AI.
		Lack of experience
	Find your way	I utilized the website that provieds for experience the AI interview
		I asked the seniors for information about the interview
Confronting artificial intelligence	The fight between artificial intelligence and me	The most difficulty of long interview was sitting properly and persisting the right position
		It was too bad that I felt that I could not fully deliver my ability.
		I have no idea of what the result will be
	Strong questions about interview evaluation	I wonder what does the interview wanted to examine
		My doubt of evaluation result has not gone away
	New experience	Different method of interview came to as interesting experience for me
		It was good that I can have the interview adjusting to my schedule
Going beyond artificial intelligence	Learn your own tricks for AI interviews	I find my own ways to succeed in an interview
		After practicing, I took interview when I was ready
	Setting up the environment for AI interview	Network situation is important
		Need a particular place for the AI interview
	Establishment of information system for AI interview	Needs some information for AI interview process
		Needs a system development for the AI interview that including or covering the nursing field

1. Finding your way in the dark

The category of 'Finding your way in the dark' has two subcategories: 'Vagueness' and 'Find your way'.

1-1. Vagueness

The students felt for a while that they were happy to be interviewed but then felt at a loss about how to pass the interview against artificial intelligence. They wanted to get information from their seniors, but there was a lack of information on AI interviews. Therefore, they found it difficult to find a wide variety of information and prepare for various unexpected questions. The additional screening process of AI interviews was burdensome for them, and it was said that long screening became the most exhausting factor for students who had to prepare for employment. In addition, students who had failed the AI interview gave up medical institutions that held the AI interviews at all because they thought that even if they passed the document screening, they would get bad results.

·I didn't know how to pass through within the AI.

"*I knew that the hospital I applied for had an AI interview, but when I did it, I felt a little bit of joy and sorrow simultaneously. It's not like I'm not going to do the first and second job interviews even with an AI interview, and I'm glad that it's not a human being, but then I had no idea how to pass an interview against AI.*"(Group 1-A)

·Lack of experience

"I was going to ask my seniors, but they didn't have any experience, so I asked a friend of mine first, and my friend told me to speak up., So I just said anything I wanted randomly" (Group 2-A).

1-2. Find your way

To prepare for the interview, students collected related information through internet search and shared other people's experiences through open chat rooms. Many students watched the interview processes on YouTube, got advice, and practiced. In addition, interviews were actively prepared using AI interview experience sites or AI experience cafes.

·I utilized the website that provides for experience in the AI interview

"*I referred to YouTube a lot. There are videos that other people upload on YouTube like a V-log, and I looked at what games were there and referred to how they answered*" (Group 1-A)

"*I was at a loss to know about the AI interview for the first time while preparing for the interview, but I was able to pull it off because I got a lot of information while searching on the Internet. I only watched videos about how AI evaluates me on what criteria*" (Group 2-B)

·I asked the seniors for information about the interview

"*I shared or asked about the interview reviews of my seniors"* (Group 2-E)

2. Confronting artificial intelligence

The category of 'Confronting artificial intelligence' has three subcategories: 'The fight between artificial intelligence and me', 'Strong questions about interview evaluation', and 'New experience'.

2-1. The fight between artificial intelligence and me

Students tried to adapt to the unfamiliar interview method of AI. Their eyes were tired because they had to interview while looking at their face on the computer screen, not human eyes, and they tried throughout the

interview to maintain a posture that was not disturbed for a long time. Students were perplexed by the questions about various situations unrelated to nursing activities. In addition, they said that it was difficult to confirm whether what they said was appropriate and how they were accepted from the interviewer's point of view because they could not examine the interviewer's response. They thought that, unlike face-to-face interviews with human interviewers, AI interviews were judged based on data on applicants, so there was no opportunity to make up for mistakes. As a result, they were found to be discouraged even with small mistakes or felt that mistakes played a big role. In addition, students said that they felt sorry that they could not pitch for their abilities in non-face-to-face interviews compared to face-to-face interviews.

·The biggest difficulty of a long interview was sitting properly and persisting in the right position

"*I felt that my body was tired. It was very difficult to maintain the same posture for a long time and brighten my face, and my eyes hurt because I had to look at the monitor for more than an hour. I heard that AI perceives it badly if you change your posture. So it was hard because I had to stay in the same position, maintain the same expression, and look at only one place*" (Group 2-E)

·It was too bad that I felt that I could not fully deliver my ability

"*In the non-face-to-face interview, I felt regretful because I felt that I could not convey all of my abilities*" (Group 2-D)

"*During the face-to-face interview, I think I can make up for the mistake by answering other questions even if I make a mistake and get embarrassed. But AI interviews are based on the data, so if you make a mistake, that's a big impact*" (Group 1-C)

·I have no idea of what the result will be

"*I didn't see the interviewer in person, so I couldn't look at the reaction, so it was difficult because I didn't know if what I said was correct or how the interviewer would take it*" (Group 2-B)

2-2. Strong questions about interview evaluation

The students said they had doubts about the evaluation criteria and thought it was difficult to go through the interview. There were also questions about general situations that felt unrelated to nursing. It was said that doubts about what these questions were for and by what criteria the results were judged as acceptance or failure have not disappeared. Since there was no feedback on the interview, there was a sense of frustration about how to supplement and interview in the future, and they said that they thought it was a lot like just a personality test.

·I wonder what does the interview wanted to examine

"*After it was over, I thought, 'It's just, wow, so hard.' And 'this is the standard for evaluation?' That's what I thought*" (Group 1-G)

"*They are packaged as personality questions, but they are vain questions, so I thought a lot about what kind of questions were to evaluate at the hospital's selection of nurses who take care of patients*" (Group 1-D)

·My doubt of evaluation result has not gone away

"*For the first AI interview, I put on makeup and prepared hard for the interview. Next time, I did well just washing my face and taking the AI interview. I don't know what the criteria were. From the perspective of participants, there were some efficient parts, but I think there are*

many errors because it is not with humans. I think AI might misjudge it" (Group 2-D)

2-3. New experience

Although the students were unfamiliar and had difficulties, they experienced various questions and steps during the AI interview and had an amazing and new experience because they could have interviews in a different form from face-to-face interviews. They said that the best thing was that AI interviews could be held according to their schedules at any time. In addition, they said that it was good to be able to give all the answers they wanted without time constraints and that they were less nervous than in face-to-face interviews because they did not have to pay attention to the interviewer's response.

·Different methods of the interview came as an interesting experience for me

"*In the AI interview, I was able to experience the various questions and steps, and it was a strange experience to be able to interview in a different way than the face-to-face interview*" (Group 1-C)

·It was good that I could have the interview adjusted to my schedule

"*It was good that I could have an interview at any time at a comfortable time within a set period. In my case, I often stayed up late at night or early in the morning, so I liked the fact that I didn't have to adjust my lifestyle, like getting up early, for other types of tests or interviews*." (Group 1-D)

3. Going beyond artificial intelligence

The category of 'Going beyond artificial intelligence has two subcategories: 'Learn your own tricks for AI interviews' and 'Setting up the environment for AI interview.'

3-1. Learn your own tricks for AI interviews

Students learned their own tricks by experiencing AI interviews. In addition to the content of the interview question, good results were obtained by speaking confidently during the interview, consistent answers, and positive speech and language use. In addition, they said that even if they made a mistake, maintaining composure and giving honest answers were able to achieve good results. However, most students cited an accurate understanding of themselves as the most necessary thing. Students adapted to and developed for AI interviews by taking full advantage of the nature of the non-face-to-face interview method and conducting interviews at their most comfortable time after sufficient practice.

·I find my own ways to succeed in an interview

"*I think it is important to talk well, without moving your eyes, for self-introduction, motivation for application, and pros and cons of oneself. Also, you should never swear during the interview. It's not important to solve a lot of related games as much. I think it's okay to take it slow."* (Group 2-B)

"*I think it's important to know first what kind of person you are. I think you need to organize it so that you can answer the same question anytime. I think it's important to build up the mindset of being a certain person in certain situations.*" (Group 2-E)

·After practicing, I took an interview when I was ready

"*In the AI interview, the game part was really difficult, so I practiced that part"* (Group 2-B)

"*I think I practiced a lot about self-introduction and the strengths and*

weaknesses of the motivation for applying" (Group 2-C)

3-2. Setting up the environment for AI interview

The students said that the Internet environment is the most important for AI interviews and that preparing space for the interview is necessary. They said that in the case of AI interviews, quiet environments, microphones, and lighting are essential, but finding an optimal place for an interview was not easy. In particular, students living in dormitories had more difficulties due to the communal life setting.

·Network situation is important

"*I think the internet environment is important. If I log out three times, I don't have a chance, so I think I was very nervous*" (Group 1-D)

·Need a particular place for the AI interview

"*It was not easy to find a place for an AI interview. In order to conduct an AI interview, there must be a quiet environment without noise, and the microphone must not ring, but it was not easy to find a place with these conditions. Furthermore, as social distancing was strengthened due to COVID-19, the number of people and the study cafe's business hours were limited, so it did not seem easy to conduct AI interviews. So, I had an interview at the dorm between 2 and 3 a.m. when other students were sleeping*." (Group 1-E)

"*I think the AI interview was bad because quite a few people were eliminated after a few connection disruptions. I think it's because the AI interview has not been properly settled. I think it'd be nice if some people decide when to do it when it's announced.*" (Group 2-C)

3-3. Establishment of information system for AI interview

The students said they needed information on the interview stages in addition to space and equipment. They said that AI interviews are conducted for more than an hour through various stages such as propensity tests, games, situational questions, and in-depth questions along with general questions, so if there is no information on each stage, they will be perplexed. They said they needed specific information on the AI interview stages, mock training programs, and special AI interview lectures.

·Needs some information for the AI interview process

"*I think it would be nice to have an experience center where you can experience AI interviews, procedures, and things like that*." (Group 1-A)

"*I think it would be good for everyone to take the special AI interview lecture. Also, you can test it for free in advance, so I think it would be better to practice it. I think it'll be easier to prepare because of that experience*." (Group 2-C)

·Needs a system developed for the AI interview that includes or covers the nursing field

"*There are no questions related to the nursing job in the AI interview. I think it will be easier for people to trust and prepare for AI interviews if they ask a question about their major suitable for the nursing job*" (Group 1-D)

Discussion

This study was conducted to examine the perception of AI interviews experienced by prospective graduates of nursing who have experienced AI interviews at medical institutions and to provide basic data

necessary to increase the efficiency of AI interviews.

In this study, the subjects perceived AI interviews as a major preparation process for employment and revealed the difficulty of AI interviews and that the process of understanding AI interviews are important. In addition, they recognized that the environmental aspects required for AI interviews, and personal aspects, including individual knowledge, personality, attitude, and posture, were important for AI interviews. It is difficult to find existing papers related to AI interviews, so we would like to discuss focusing on the collection of categories identified in this study.

The first category is "Finding your way in the dark." While experiencing AI interviews, face-to-face interview education was conducted until COVID-19, so nursing students were insufficient to prepare for AI interviews. In particular, when it comes to the category of "difficulty of passing through artificial intelligence interviews," nursing students said they were faced with a situation where they had to search for and prepare various information in a situation they had never expected or experienced AI interviews.

Existing face-to-face interviews are a method in which interviewers and applicants face each other, so there is a possibility that they will make errors in judgment due to the applicant's appearance or voice (13). In addition, humans are known to be easily deceived by the other person's first impression, and visual information is reported to interfere with accurate judgment, especially in grasping the other person's personality (14). Considering this aspect, AI interviews may serve as advantages.

However, in a study of high school students, the existing "interview" had the perception that "people" evaluate, which was found to work more than the perception of the convenience and fairness that AI interviews can give. Therefore, the application and acceptance of new technologies need to consider the user's readiness and recognition as well as verification of the usefulness and ease of use provided by those technologies (15). In addition, it can be seen that it is similar to the research results of (14), that studied high school students and others on AI interviews for entrance exams.

Currently, AI interviews in admissions are being attempted at several universities (16). It was said that it is necessary to verify efficiency and convenience during interviews through these new technologies and consider students' perspectives as users. There were also concerns that students would have many side effects from unilaterally conducting AI interviews without awareness of AI interviews or preparation for AI interviews. Accordingly, it is believed that it is necessary to support nursing students to positively use their interview strategies in the field for AI interviews and to prepare students for this. In particular, when seeking directions for interview preparation education currently conducted at universities, it is believed that AI and face-to-face interviews should be designed so that they can be operated complementarily.

The second category is "Confronting artificial intelligence." Students had a lot of difficulties in interviews with unfamiliar artificial intelligence, questions about situations that seemed irrelevant to nursing jobs, evaluation methods that did not know the criteria, and fear of mistakes. It can be seen that these psychological factors greatly influence students' interview preparation and results. It is said that the increase in interest in AI in human resource management is due to minimizing the impact and prejudice that can be received from language or appearance, and ability-oriented selection. As a result, many time and economic costs can be reduced, and high-quality recruitment can be used further. Assuming that it evaluates the overall aspect

of humans rather than interviews as nursing and nurses, it is believed that good results can be expected if students are less burdened by providing specific information on the AI interview stages, and increased adaptability can be expected. Therefore, universities need to develop education and training programs related to AI interviews.

The third category is "Going beyond artificial intelligence." Through AI interviews, students learned their own methods and tricks to cross the line of passing through artificial intelligence and accepted that AI interviews would expand in the future. In the case of AI interviews, space for AI interviews is absolutely necessary, along with a stable Internet environment, so in order to improve students' employment rate, it is necessary to establish equipment and interview rooms for optimal AI interviews and provide administrative and financial support so that students can use them freely when needed. Nursing students need to apply career education (17) that reflects major-related major characteristics, such as nurse recruitment methods, interviews, written tests, job content, and customized career ability enhancement programs, including self-exploration (18).

As for the topic of "Learn your tricks for AI interviews," most students understood themselves accurately and judged that they could get good results in AI interviews if they answered with calmness and honesty. As research on AI interviews is insufficient so far, it is difficult to compare directly with previous studies, but the results of (14) study of high school students on AI interviews emphasize that AI interviews will make fair judgments without self-interest. The purpose of AI-based interviews is based on strengthen objectivity and fairness. However, ultimately, it should be to reduce the waste of manpower for interviewers, save money and time, and select excellent applicants.

However, while large companies are introducing AI in the personnel management and recruitment process, more than half of the general public is negatively about AI interviews (19); therefore, there are several things to consider for a fairer evaluation.

When a company learns the data it collects from AI, AI judges applicants based solely on the given data and decide whether to hire them (20). As such, big data provides efficiency and convenience, but it also presents numerous challenges and potential risks. Therefore, it is also important to raise awareness of derived problems or phenomena and to suggest solutions to them(21). In addition, if there is no proper control over artificial intelligence, artificial intelligence can strengthen prejudice and infringe on personal information, so it is necessary to consider matters to be observed when hiring artificial intelligence(22).

Therefore, in the non-face-to-face era, it is necessary to prepare to strengthen the ability of nursing students to adapt to AI-based recruitment systems that strengthen safety, efficiency to save time and resources, and fairness to prevent discrimination. Therefore, in our nursing education, employment support, such as practical interview programs of departments for successful employment, is considered important. It is necessary to develop various employment support programs and establish an educational environment.

Conclusion

This study conducted a content analysis by applying focus group interviews to confirm the AI interview experiences experienced by graduates of prospective nursing in the COVID-19 situation. This study is meaningful in that it provides various perspectives of nursing students, who are end-users of this technology, by grasping nursing students' perceptions of AI interviews

when hiring nurses who are currently tried or being implemented.

Through the results of this study, we would like to suggest the following with several limitations. First, it is difficult to generalize this result because it is a study centered on focus groups. In future studies, it is necessary to re-study into consideration the size of various subjects and sampling by region. Second, based on the results of this study, it is suggested to conduct follow-up studies to verify specific applications and effectiveness along with preparing AI interview programs for nursing students preparing for AI interviews.

Acknowledgments

do not exist.

Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Han CY, Park SA. The effect of the containment and closure policies on the spread of COVID-19. The Korea Association for Policy Studies. 2021;30(3):1-38. http://dx.doi.org/10.33900/KAPS.2021.30.3.1
2. Lee JH, Park MS, LEE SW. The Transmission dynamics of sars-cov-2 by setting in three waves in the seoul metropolitan area in South Korea. Health and Social Welfare Review. 2021 June;41(2):7-26. https://doi.org/10.15709/hswr.2021.41.2.7
3. Kang JY. Simulated nursing practice education in the ontact age: A mixed methods case study. The Journal of Learner-Centered Curriculum and Instruction. 2020 Sep;20(18):937-957. DOI: http://doi.org/10.2251/jlci.2020.20.18.937
4. Korea Disease Control and Prevention Agency. Chungbuk: Author. Available from: http://ncov.mohw.go.kr/tcmBoardView.do?brdId = 3&brdGubun = 31&dataGubun = &ncvContSeq = 6242&contSeq = 6242&board_id = 312&gubun = ALL. Accessed December 4, 2021
5. Morris KC, Schlenoff C, Srinivasan V. A remarkable resurgence of artificial intelligence and its impact on automation and autonomy. IEEE Transactions on Automation Science and Engineering. 2017 Apr;14(2):407-9. doi: 10.1109/TASE.2016.2640778.
6. Connor CW. Artificial Intelligence and Machine Learning in Anesthesiology. Artificial Intelligence and Machine Learning in Anesthesiology. 2019 Dec;131(6):1346-59. doi: 10.1097/ALN.0000000000002694.
7. Siobhan O'Connor. Artificial intelligence and predictive analytics in nursing education. Nurse Education in Practice. 2021 Oct;56:103224.
DOI: 10.1016/j.nepr.2021.103224
8. Yang HT. Safety Issues of Artificial Intelligence and Policy Responses. The Journal of Korean Institute of Communications and Information Sciences. 2018 Oct;43(10):1724-32. https://doi.org/10.7840/kics.2018.43.10.1724
9. Seibert K, Domhoff D, Bruch D, Schulte-Althoff M, Fürstenau D, Biessmann F, Wolf-Ostermann K. Application Scenarios for Artificial Intelligence in Nursing Care: Rapid Review. Journal of medical Internet research. 2021 Nov;23(11):e26522. doi: 10.2196/26522.
10. Baek SJ, Choi SH, Ryu YH, et al. Developing Interview Tool for Selecting Applicants with Aptitude for Their Major in Undergraduate Admission Assessment. The Journal of Modern Social Science Research. 2015 Dec;20(0): 1-29.
11. Lee BS, Eo YS, Lee MA. Leadership experience of clinical nurses: applying focus group interviews. Journal of Korean Academy of Nursing. 2015 Oct 1;45(5):671-83.
12. Hsieh HF, Shannon SE. Three approaches to qualitative content analysis. Qualitative health research. 2005 Nov;15(9):1277-88.
https://doi.org/10.1177/1049732305276687
13. Graneheim UH, Lundman B. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. Nurse Education Today. 2004 Feb;24(2):105-12. doi: 10.1016/j.nedt.2003.10.001.
14. Shin NM, Chang SJ. A Study on High School Students' Perceptions of AI Interview for University Admission. The Journal of the Korea

Academia-Industrial cooperation Society. 2021 Jul;22(7): 242-51. Doi: https://doi.org/10.5762/KAIS.2021.22.7.242

15. Gray JR, Grove SK, Sutherland S. Burns and grove's the practice of nursing research-E-book: Appraisal, synthesis, and generation of evidence. Elsevier Health Sciences; 2016 Aug 10.

16. Ronquillo CE, Peltonen LM, Pruinelli L, Chu CH, Bakken S, Beduschi A, Cato K, Hardiker N, Junger A, Michalowski M, Nyrup R. Artificial intelligence in nursing: Priorities and opportunities from an international invitational think-tank of the Nursing and Artificial Intelligence Leadership Collaborative. Journal of advanced nursing. 2021 Sep;77(9):3707-17.

17. Wilson R, Godfrey CM, Sears K, Medves J, Ross-White A, Lambert N. Exploring conceptual and theoretical frameworks for nurse practitioner education: a scoping review protocol. JBI Evidence Synthesis. 2015 Oct 1;13(10):146-55.

18. Cheng SF. Transformation in Nursing Education: Development and Implementation of Diverse Innovative Teaching. Journal of Nursing. 2021 Dec;68(6):4-5. doi: 10.6224/JN.202112_68(6).01.

19. Gray K, Slavotinek J, Dimaguila GL, Choo D. Artificial Intelligence Education for the Health Workforce: Expert Survey of Approaches and Needs. JMIR medical education. 2022 Apr 4;8(2):e35223. doi: 10.2196/35223.

20. Kim YH. Effect of career empowerment program on career maturity, career decision-making self-efficacy, and employment stress of nursing college students. The Journal of the Korea Contents Association. 2013;13(12):817-28.

21. Byun SY. A Study on the Problem of AI Bias in Data Ethics. The Korean Journal of Ethics. 2020 Mar;1(128):148-58. DOI: 10.15801/je.1.128.202003.143

22. Buchanan C, Howitt ML, Wilson R, Booth RG, Risling T, Bamford M. Predicted influences of artificial intelligence on nursing education: Scoping review. JMIR nursing. 2021 Jan 28;4(1):e23933. doi: 10.2196/23933. eCollection Jan-Mar 2021.