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Nursing students' experience of approaching risk for suicide behaviour through simulated environments: A content analysis study

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ABSTRACT

Background: Suicide is a major public health problem, especially among the young population. Nurses are in a unique position to prevent it due to their constant contact with patients. However, addressing suicidal behaviour can be complicated by the emotional responses it elicits. Simulation has been shown to be an effective tool to increase the self-confidence of nursing students in dealing with these sensitive situations in a safe environment prior to dealing with real patients.

Aim: To explore nursing students' perceptions, thoughts, and emotions about their performance in dealing with risk for suicidal behaviour through simulated scenarios.

Design: Qualitative descriptive study.

Methods: Students of Mental Health and Psychiatric II in the third year of the Nursing course at the University of Málaga were invited to explain their experience by answering a questionnaire of three open-ended questions following their participation in the simulated scenarios of the course.

Results: A total of 72 students participated. Content analysis of the written responses identified three main themes: (i) Emotions experienced during the simulation; (ii) Self-criticism of the performance/intervention; (iii) Student evaluation of the learning experience.

Most of the students indicated at some point during the clinical scenario, they had felt anxiety, proposing possible improvements in their own performance. The clinical scenario that elicited the most negative emotions was that of a person diagnosed with borderline personality disorder.

Conclusion: Clinical simulations contribute to a better understanding of nursing practice with mental health patients and the need for training in emotional and therapeutic communication skills among students.

Introduction

Suicide is a public health problem that causes >700,000 deaths worldwide each year (WHO, 2021). In addition, for every suicide that occurs there are also many attempts, which is considered one of the main risk factors for suicide (Favril, Yu, Uyar, Sharpe, & Fazel, 2022). During 2021, the United States alone, witnessed 46,412 suicides among adults, underscoring the issue's severity. Beyond the deaths, for each case, there were approximately 3 hospitalizations for self-harm, 8 emergency department visits, 38 self-reported suicide attempts, and 265 individuals who seriously considered suicide, highlighting the extensive impact of suicidal behaviour beyond the fatalities (Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2023).

Nurses work in constant contact with the patient, placing them in a privileged position to explore suicidal ideation and prevent suicide (Kerr, Martin, & Fleming, 2018). Their unique role in healthcare settings underscores the necessity for their training to be comprehensive and to begin from their university education. Effective teaching strategies are essential in facilitating the acquisition of skills needed to support patients effectively.

In this sense, clinical simulation is presented as a very effective

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training tool for preparing nursing students for this type of situations (Davison, Mackay, & McGivern, 2017). It offers a safe environment to practice and enhance their competencies before encountering real-life cases (Alexander, Sheen, Rinehart, Hay, & Boyd, 2018). The simulation's immersive experience helps bridge the gap between theoretical knowledge and practical application, crucial for preparing students to face challenging scenarios confidently.

Previous literature has indicated that nursing students do not feel prepared for clinical situations involving risk for suicidal behaviour, which tend to evoke fear (F. Sun, Long, Chiang, Wu, & Yao, 2020). However, there is a gap in the literature exploring students' thoughts, feelings, and self-reflections when engaging with simulated environments that present the risk of suicide behaviour.

Background

Suicide is a universal human manifestation that has been present throughout all historical times (Alves et al., 2022). Its magnitude is so high that it is considered one of the leading causes of death among young people worldwide (Glenn et al., 2020).

Almost 50 % of the individuals who die by suicide had seen a health professional within 30 days prior the act (Laanani et al., 2020), with the previous three months being particularly critical (Ahmedani et al., 2019; Chock, Lin, Athyal, & Bostwick, 2019). Health professionals, and nurses in particular, have an active role in the prevention of suicide in the population (Vedana et al., 2017). However, in most cases they do not feel sufficiently prepared to provide the relevant care (Vedana & Zanetti, 2019).

Some of the reasons why patients with previous contact with health services do not seek help or report suicidal ideation are related to fear of the consequences. This includes stigmatising attitudes, overreaction to the event, and loss of autonomy (Richards et al., 2019). The contact and support provided by the nurses can have an important impact on people at risk for suicidal behaviour (Vandewalle et al., 2019). This interpersonal relationship has a therapeutic purpose and for this reason, nurses must successfully develop a series of transversal competencies such as the ability to empathise, active listening and the correct use of non-verbal language (Clua-García, Casanova-Garrigós, & Moreno-Poyato, 2021). Advanced competencies are also required. These could be identified through the interventions carried out by nurses during cases of suicide risk or risk of self-directed violence, for example. These diagnoses are some of the most frequent in the *"Safety/Protection"* domain (Frauenfelder, van Achterberg, & Müller Staub, 2018; Frauenfelder, van Achterberg, & Müller-Staub, 2018).

Facing suicide behaviour also provokes a variety of emotional responses in nurses, including fear, sadness, worry, or anxiety (Türkleş, Yılmaz, & Soylu, 2018), the latter identified by nurses as an obstacle that they must learn to manage mainly through psychotherapeutic training (Morrissey & Higgins, 2019). These emotional responses are, in many cases, fostered by stigmatising attitudes towards mental disorders (Morrissey & Higgins, 2019).

Due to the prevalence of this phenomenon, not only nurses but also nursing students have a high probability of facing these situations (Vedana et al., 2017). During this formative stage it is common to identify risk for suicidal behaviour as a challenging event to face, of which the student does not feel sufficiently prepared to act or even to empathise with the events that have led a person to want to take his or her own life (Vedana et al., 2017).

Previous studies have already highlighted the need to incorporate simulation as a pedagogical strategy in the approach to mental health problems in nursing curricula (Goh et al., 2021). Simulation with standardised patients has the advantage of decreasing anxiety and increasing students' self-confidence (Øgård-Repål, De Presno, & Fossum, 2018) and empathy (Outlaw & Rushing, 2018). These are essential issues in the reduction of avoidant behaviours during clinical practice in mental health services (Alexander et al., 2018). Overall, it could be said it promotes the potential development of communication and emotional self-management skills that graduate nurses identify as necessary for working with patients at risk for suicidal behaviour (Vandewalle et al., 2019), all in a controlled and safe setting that does not result in possible adverse events (Alexander et al., 2018).

Previous studies have explored nursing students' perceptions and experiences of the use of simulation in mental health settings (Garvey, Willetts, Sadoughi, & Olasoji, 2021; Øgård-Repål et al., 2018). The results suggest that debriefing motivates students through feedback from peers and instructors, improving their communication skills, cognitive learning (Sarikoc, Ozcan, & Elcin, 2017), empathy and, sensitivity towards patients with mental disorders (Doolen et al., 2014; Garvey et al., 2021).

Nonetheless, there has been no in-depth analysis of nursing students' experience of responding to risk for suicidal behaviour in simulated scenarios and their perception of their learning process. In this context, previous research highlights the initial fear of nursing students when interacting with and caring for these patients (F. Sun et al., 2020). Although nursing students frequently encounter patients at risk of suicide behaviour, the literature lacks a thorough exploration of the internal processes of these students — their thoughts, feelings, and self-reflections during simulated scenarios — which is crucial for developing tailored educational strategies to enhance their readiness for such challenging situations. Knowing how nursing students feel when dealing with a patient at risk for suicidal behaviour can help educators to plan the most effective pedagogical strategies to improve students' competences when dealing with a patient under such circumstances (F. Sun et al., 2020; F.-K. Sun, Long, Chiang, & Chou, 2019).

Taking all this information into account, the following research question arise: What is the experience of nursing students when faced with simulated scenarios of suicidal behaviour risk, considering their perception, thoughts, and emotions about their performance in such scenarios?

Therefore, the aim of this study was to explore the perceptions, thoughts, and emotions of student nurses on how they cope with risk for suicidal behaviour through simulated scenarios.

Materials and methods

Research design

A qualitative descriptive study was carried out through the analysis of a questionnaire with open-ended questions where participants were asked about their experience in a clinical simulation scenario about risk for suicidal behaviour was carried out. This qualitative design allows for a deeper exploration, since open-ended qualitative surveys allow participants to provide detailed and nuanced responses in their own words, offering rich insights into their subjective experiences and perspectives (Braun & Clarke, 2013).

The current study is reported according to the Standards for Reporting Qualitative Research (SRQR) (O'Brien, Harris, Beckman, Reed, & Cook, 2014).

Settings and participants

The participants were third year nursing students enrolled in the Mental Health and Psychiatric II course at the University of Málaga who intervened in a simulated case involving the nursing diagnosis of risk for suicidal behaviour, according to NANDA [00289]. Convenience sampling was employed to recruit participants. Therefore, all students enrolled in the course ($N = 145$) were invited to participate in the study, including only the responses of those who had accepted and participated in a case involving this diagnosis ($n = 72$). Exclusion criteria were being a foreign student enrolled in an exchange programme or having previous professional experience with patients with mental disorders. Interested students signed an informed consent form at the beginning of the course.

Procedure

The subject is taught during the second semester of the third year, prior to the specific clinical practice in mental health units (to be carried out in the fourth and final year). The classroom hours are divided into 17.5 h of theoretical lectures where mental disorders listed in the DSM (such as mood disorders, anxiety disorders, psychotic disorders, eating disorders, etc.) and nursing interventions to be developed are explained, as well as a deployment of communication techniques and strategies to improve the therapeutic relationship. Practical activities include 12.5 h of clinical simulation. The course was taught by two lecturers, both nurses, one of whom is also a mental health nurse (MHN), and both are psychologists.

The simulated scenarios dealt with the most prevalent mental disorders and were conducted in a non-specialized clinical setting that students and professionals may encounter in their daily practice.

During the first semester students were randomly assigned into groups of approximately 12 people for seminars and practical activities. These working groups remained unchanged during the second semester for work on clinical cases, ensuring a safe environment through established group dynamics. Before the case, each group received a prebriefing with an explanation of the scenario and a brief discussion. During the simulation, the students were face-to-face with one or two MHNs who played the role of the patient and family/companion. They had to approach the scenario as if they were dealing with a real patient in the clinical setting, putting into practice the knowledge acquired during their theoretical training. The rest of the classmates watched the student's intervention from another classroom via streaming. After the simulation, a debriefing session was held to reflect on the intervention.

A group of MHNs were invited to participate in a Delphi panel to select the interventions to be developed in the cases. After this, the cases were prepared, each following a script that included observation units for the instructor. Finally, the cases were peer-reviewed by 12 MHNs. The cases were previously tested by team of seven instructors, recording their interventions for subsequent viewing and script improvement. Cases dealing with risk for suicidal behaviour included the case of a woman admitted to the trauma unit after having jumped from a window (psychotic episode) (case 1), the case of a man who came to the emergency room for several cuts on his arm that he had presumably suffered while working on the farm (case 2) and the case of a girl transferred to the emergency room after ingesting benzodiazepines and alcohol (diagnosed with borderline personality disorder -BPD-) (case 3).

To ensure the standardization of simulation scenarios across different groups, the team developed an internal manual for instructors and actors. This manual served as a guide for executing the cases but also for the development of prebriefing and debriefing sessions, detailing the necessary information for correct performance. Additionally, the faculty members serving as instructors had developed a prior debriefing session to perform similar steps, equipped with audio-visual material that supported the session (including, for example, the objectives of the case, the moment when de-escalation was performed, etc.).

Throughout the semester, regular meetings were held to guarantee the study was progressing smoothly and to clarify any doubts. In addition, constant communication was maintained through other means such as email.

Data collection

The data was collected through a self-administered questionnaire that the students answered after participating in the session. The questionnaire consisted of three open questions:

1. Describe briefly how you felt during the simulated scenario.
2. Make a self-assessment/self-analysis indicating what you think your strengths were and what aspects you should continue to work on.
3. Add any comments you consider necessary about the seminars (dynamics, contents, assessment, etc.).

The questions were chosen following a review of the literature on the emotional aspects and difficulties of nurses and students in dealing with risk for suicidal behaviour. Socio-demographic data such as gender, age and previous experience were also collected. Data was collected between May and June 2019.

Data analysis

A content analysis was carried out, which allows the emphasis to be placed on variation and comparison (Graneheim & Lundman, 2004). The units of analysis were the questionnaires completed by the students on their perception of the actions carried out during the simulation.

After coding the questionnaires, the co-occurrence of codes was analysed. Although it was not the aim of the study, the responses were divided between cases, calculating the absolute and relative frequencies of each category regarding the totality of categories, performing the same procedure for the subcategories included within the category.

Due to the diversity of codes identified, only those with a relative frequency > 5 % in any of the cases were included (Mayring, 2014). The analysis was carried out using ATLAS.ti software version 9.0.

Ethical issues

All enrolled students were informed at the beginning of the course about the study to be carried out and about the voluntary nature of their participation, which did not imply any type of consequence in their evaluation process. The teaching methodology was similar for all students, whether they agreed to participate or not, with the only difference being that the data of those who gave their consent to participate would be included as part of the analysis. Written informed consent was obtained from all participants involved in the included cases.

The questionnaires were anonymised by one of the researchers prior to being read and coded by other independent researchers. All personal data acquired during the study was handled in accordance with national data protection legislation (Law 3/2018 of 5 December). The study was approved by the Research Commission of the Faculty of Health Sciences of the University of Málaga.

Rigour

While this study has sought to convey the genuine perspectives of nursing students, it is important to acknowledge the intrinsic subjectivity associated with qualitative research, including the potential for researcher bias, which we have endeavoured to minimize through methodical reflexivity and transparent reporting.

The following methods were used to promote the rigour of this study (Graneheim & Lundman, 2004):

1. Teaching and research experience of the lecturers on the study subject and on the use of this methods.
2. Participant selection strategy to maximize the degree of diversity and variations in the group under study (three different scenarios).
3. Data collection through a self-administered questionnaire that did not involve interaction with the participants.
4. Transferability and applicability through a detailed description of the context and participants.
5. Reliability and consistency through analysis and coding by two independent researchers, plus review by two external researchers to ensure that the process followed was correct.

Results

Demographic characteristics

Of the 145 students enrolled in the course, 72 participated in simulated scenarios dealing with risk for suicidal behaviour, all of them fulfilling the requirements for inclusion in the analysis and freely agreeing to participate in the study.

The final sample therefore consisted of 72 students (83.33 % female), with a mean age of 23.44 years (SD = 6.03). Twenty-four students participated in each of the three cases analysed.

Open-ended questions

From the inductive analysis of the responses to the open-ended questions, three main categories and eight sub-categories emerged (see Table 1).

Of the three main categories identified, case 3 had the highest richness of codes (see Table 2).

Category 1: emotions experienced during the simulation

They were subdivided into two subcategories: "positive emotions" and "negative emotions" (see Table 2).

Negative emotions

After coding, it was possible to observe the predominance of negative emotions.

Anxiety was the emotion par excellence, being repeated 67 times. They reported feeling very nervous at some point during the simulation, although some were later able to control their emotions and feel confident at the end of the case.

> "Very nervous at the beginning because I didn't know how to approach it thoroughly, but then I relaxed."
>
> C2: P10

The insecurity experienced was present in all cases, although it increased with the new cases. Stage fright or panic also appeared, although less frequently.

Positive emotions

Positive emotions included the self-confidence felt by the students once they were in control of the situation, which had an impact on their peace of mind.

> "But after a while, I felt more confident and loosened up more".
>
> C2: P22

They also reported comfort with the situation addressed in the scenario.

> "...I felt comfortable and self-confident"
>
> C3: P44

Table 1
Categories and their corresponding subcategories from the content analysis.

Category	Subcategory
Emotions experienced during the simulation	Positive emotions
	Negative emotions
Self-criticism of the performance/ intervention	Positively or correctly developed skills/ interventions
	Negative skills/interventions/to improve
	Student reaction during the scenario
	Perceived consequences of their interventions on the patient
Student evaluation of the learning experience	Aspects related to the methodology used
	Students' perceptions beyond their participation in the simulation

Category 2: self-criticism of the performance/intervention

The students identified both strengths of themselves and of the situation in general, as well as areas for improvement. This category was subdivided into four subcategories.

The first two subcategories refer to the skills and/or interventions identified as having been developed correctly or incorrectly.

Positively or correctly developed skills/intervention

They identified a greater number of correctly performed interventions than errors, such as interpersonal skills ("active listening", "empathy" and "availability", understood as being accessible to the patient).

> "I think that I have been empathetic, I have approached the patient and I have been able to get enough information out of him"
>
> C2: P22

As intrapersonal skills, the capacity for self-control stood out. And in terms of health demand, some students identified having performed a correct psychopathological exploration.

Negative skills/interventions/to improve

They also identified other interventions that needed to be improved such as contact, verbal and non-verbal communication skills.

> "I need to become better at steering the conversation in the desired direction and learn how to redirect it to regain control more effectively"
>
> C1: P13

> "...the words with which to address patients, I think I shouldn't have insisted so much on him telling me things and I should have given him a bit more support".
>
> C2: P53

Treatment towards the patient was identified both as a correct intervention and as something that needed to be improved but they declared the need to improve the ability to establish priorities. Some participants also highlighted the perception that the situation had been out of control. "Non-resolution of the problem" also appeared, as some students verbalised not having focused on solving the patient's demand.

> "I don't think I have given him a solution to his problem, I have only focused on getting information from him"
>
> C2: P22

Student reaction during the scenario

The emphasis in this subcategory was mainly on feeling puzzled by the situation, with the perception of being lost during the development of the scenario.

> "... I felt that the situation was beyond me, and I didn't know how to control it"
>
> C3: P1

> "... I didn't really know what to do with a person who says they are losing control"
>
> C3: P55

Perceived consequences of their interventions on the patient

The last subcategory points to the perceived consequences (positive/ negative) of their interventions on the patient. Comfortable environment and patient relaxation were detected as positive consequences. Atmosphere referred to the student's handling of the context, while relaxation focused on the work with the patient.

> "I tried to find a comfortable place for the patient to talk (by taking the mother out of the room)...".

Table 2
Absolute and relative frequencies of codes by clinical case.

	CASE 1 $n = 24$		CASE 2 n = 24		CASE 3 n = 24		TOTAL $N = 72$	
	c/TC	%	c/TC	%	c/TC	%	c/TC	%
Category: Emotions experienced during the simulation	47/244	19.26 %	58/270	21.48 %	61/288	21.18 %	166/802	20.70 %
Subcategory: Positive emotions	24/47	51.06 %	25/58	43.10 %	18/61	29.51 %	67/166	40.36 %
Comfort	1/24	4.17 %	8/25	32 %	6/18	33.33 %	15/67	22.39 %
Self-confidence	12/24	50 %	7/25	28 %	5/18	27.78 %	24/67	35.82 %
Tranquility	11/24	45.83 %	10/25	40 %	7/18	38.89 %	28/67	41.79 %
Subcategory: Negative emotions	23/47	48.94 %	33/58	56.90 %	43/61	70.49 %	99/166	59.64 %
Anxiety	14/23	60.87 %	26/33	78.79 %	27/43	62.79 %	67/99	67.68 %
Insecurity	5/23	21.74 %	5/33	15.15 %	12/43	27.91 %	22/99	22.22 %
Stage fright/fear of public speaking	4/23	17.39 %	2/33	6.06 %	4/43	9.30 %	10/99	10.10 %
Category: Self-criticism of the performance/intervention	144/244	59.02 %	191/270	70.74 %	146/288	50.69 %	481/802	59.97 %
Subcategory: Positively or correctly developed skills/interventions	75/144	52.08 %	105/191	54.97 %	67/146	45.89 %	247/481	51.35 %
Self-control	4/75	5.33 %	7/105	6.67 %	3/67	4.48 %	14/247	5.67 %
Good bedside manner	6/75	8 %	6/105	5.71 %	7/67	10.45 %	19/247	7.69 %
Control of the situation	9/75	12 %	12/105	11.43 %	8/67	11.94 %	29/247	11.74 %
Availability	5/75	6.67 %	7/105	6.67 %	2/67	2.99 %	14/247	5.67 %
Empathy	10/75	13.33 %	12/105	11.43 %	13/67	19.40 %	35/247	14.17 %
Active listening	9/75	12 %	18/105	17.14 %	11/67	16.42 %	38/247	15.38 %
Psychopathological examination	5/75	6.67 %	10/105	9.52 %	3/67	4.48 %	18/247	7.29 %
Subcategory: Negative skills/interventions/to improve	42/144	29.17 %	59/191	30.89 %	48/146	32.88 %	149/481	30.98 %
Improving communication	10/42	23.81 %	11/59	18.64 %	4/48	8.33 %	25/149	16.78 %
Improve contact	4/42	9.52 %	5/59	8.47 %	3/48	6.25 %	12/149	8.05 %
Improving patient care	6/42	14.29 %	9/59	15.25 %	9/48	18.75 %	24/149	16.11 %
Improving non-verbal language	9/42	21.43 %	8/59	13.56 %	5/48	10.42 %	22/149	14.77 %
Non-resolution of the problem	6/42	14.29 %	6/59	10.17 %	6/48	12.50 %	18/149	12.08 %
Prioritising	2/42	4.76 %	8/59	13.56 %	5/48	10.42 %	15/149	10.07 %
Situation out of control	3/42	7.14 %	4/59	6.78 %	11/48	22.92 %	18/149	12.08 %
Subcategory: Student reaction during the scenario	11/144	7.64 %	14/191	7.33 %	19/146	13.01 %	44/481	9.15 %
Self-demand	2/11	18.18 %	5/14	35.71 %	4/19	21.05 %	11/44	25 %
Being puzzled	9/11	81.82 %	9/14	64.29 %	15/19	78.95 %	33/44	75 %
Subcategory: Perceived consequences of their interventions on the patient	16/144	11.11 %	13/191	6.80 %	12/146	8.22 %	41/481	8.52 %
Comfortable environment	1/16	20 %	1/13	11.11 %	1/12	20 %	3/41	7.32 %
Patient relaxation	1/16	20 %	3/13	33.33 %	2/12	40 %	6/41	14.63 %
Patient collaboration	14/16	87.55 %	9/13	69.23 %	9/12	75 %	32/41	78.05 %
Category: Student evaluation of the learning experience	53/244	21.72 %	21/270	7.78 %	81/288	28.13 %	155/802	19.33 %
Subcategory: Aspects related to the methodology used	26/53	49.05 %	10/21	47.61 %	32/81	39.5 %	68/155	43.87 %
Correct simulation methodology	4/26	15.38 %	0/10	0 %	4/32	12.5 %	8/68	11.76 %
Prior knowledge	8/26	30.76 %	7/10	70 %	13/32	40.62 %	28/68	41.18 %
Debriefing of cases	6/26	23.07 %	0/10	0 %	2/32	6.25 %	8/68	11.76 %
Perception of one's own experience	0/26	0 %	2/10	20 %	6/32	18.75 %	8/68	11.76 %
Undertake more interventions	6/26	23.07 %	0/10	0 %	2/32	6.25 %	8/68	11.76 %
Subcategory: Students' perceptions beyond their participation in the simulation	27/53	50.94 %	11/21	52.38 %	49/81	60.49 %	87/155	56.13 %
Applicability in clinical practice	9/27	33.33 %	2/11	18.18 %	18/49	36.73 %	29/87	33.33 %
Learning how to solve problems	5/27	18.51 %	7/11	63.63 %	13/49	26.53 %	25/87	28.74 %
Positive experience	12/27	44.44 %	2/11	18.18 %	15/49	30.61 %	29/87	33.33 %

Table shows the number of times that each code (c = code) was cited resulting from the analysis of each category concerning the total number of codes in each category or subcategory as appropriate (TC = Total codes).

C3: P26

"I kept calm and tried to make him see that he was not to blame for what was happening to him"

C2: P67

Lack of collaboration was expressed as one of the main negative consequences, as in some cases, despite the student's attempt, the patient did not provide the information they would have liked.

"I felt a bit overwhelmed when I noticed she wasn't talking. In the end I did manage to have a conversation with her, but at first, she didn't answer me/responded with monosyllables that didn't lead to conversation, and I was worried about not being able to reach her and not knowing how to help her".

C1: P24

In other cases, collaboration was seen as a positive consequence, resulting in the patient's willingness to be open.

"I think I managed to reach an agreement with the patient, and I was able to take her on the path I wanted"

C1: P46

Category 3: student evaluation of the learning experience

This category focuses on the learner's perceptions following their performance in the simulated scenario. It is divided into 2 subcategories.

Aspects related to the methodology used

In this first subcategory the relevance of the methodology used, and the realism achieved by using streaming were highlighted.

"Streaming seminars have been a good idea because they reduce the anxiety that already comes with getting in front of a camera and being assessed".

C3: P31

The students reflected on those aspects of the simulation on which they could intervene, indicating the need to study the theoretical content beforehand.

"I need to improve my previous knowledge of what to do and what not to do in certain 'sensitive' situations".

C3: P1

They also included the need to incorporate in the debriefing of the scenarios a summary of the guidelines to be considered when dealing with these situations in real life, in order to consolidate knowledge.

> "At the end of the seminars, they should give a brief outline of how to act in real life".
>
> C1: P47

Other notable aspects were the influence of the students' lack of previous experience in the development of the scenarios and, the need for more seminars in this and other clinical contexts.

> "I found them to be the most useful seminars we have had so far in our degree, as they put us in the role of a real clinical case, and it was very powerful. I think we should do them more often so that we know how to act in the future".
>
> C3: P62

Students' perceptions beyond their participation in the simulation

They emphasized the applicability of the simulation in clinical practice, including the usefulness gained from these cases both for their practice as students and for their professional future. In addition, they identified its usefulness in helping them to solve problems.

> "I found it very useful for dealing with cases that we have not yet experienced in clinical practice and that perhaps we will be able to see when we are nurses, and we are on our own".
>
> C3: P9

In general, the students labelled the experience as very positive for their personal and professional learning.

> "It has been very useful both for clinical practice and personally. I have been able to realise my mistakes and my achievements...".
>
> C3: P6

Code co-ocurrence

Code co-occurrence was carried out to identify possible factors related to the most frequent codes. Experienced anxiety was mainly related to codes such as "being puzzled" and "insecurity", which were closely related to each other. The code "situation out of control" was also prominent, although to a lesser extent than being puzzled. However, anxiety also appeared to be related to the self-confidence experienced by the student and control of the situation. As for calmness, it was mainly related to self-confidence and the latter to control of the situation. (See Table 3.)

Skills such as empathy and active listening appeared strongly related. Psychopathological exploration appeared to be linked to active listening. The need to improve communication and bedside manner also appeared to be related in some cases.

Finally, the applicability of the experience to clinical practice, learning to solve problems and valuing the simulation as a positive experience were highly related.

Differences in dealing with the suicide attempt according to the scenario presented

Possible differences in the frequency of occurrence of codes according to the case addressed were compared (see Table 2).

Regarding the first category (emotions experienced), case 1 (psychotic episode) was the one in which the students expressed the least emotions, with practically the same percentage of positive and negative emotions. Case 3 (BPD) showed the greatest polarisation, with negative emotions such as student insecurity being particularly frequent. However, stage fright was more present in case 1, and students reported feeling more comfortable in cases 2 (cuts on the arm) and 3. According to the frequency of codes in the transcripts of case 1, it could be observed that the students felt more self-confidence during the simulation, but it is in this case where a greater need for improvement was perceived ("improve contact", "improve non-verbal language", among others).

Regarding the second category (self-criticism of performance), two of the subcategories point to the skills developed (positive/negative). Case 2 stood out for a higher number of recognitions of both achievements and mistakes. A better "control of the situation" was reported with respect to the rest of the cases, and skills such as "active listening" were more present in this case. However, in cases 1 and 2 the students highlighted the need to improve communication in general. Case 3 was characterised by the feeling that the situation was out of control.

In the subcategory "learner's reaction during the case", being puzzled, in which the student felt lost during the development of the scenario, stood out, especially in case 3. As for the consequences of the student's intervention, the lack of collaboration of the patient was especially pointed out by participants in case 3.

In the last category (evaluation of the learning experience), in case 3, the code "prior knowledge" was repeated almost twice as often as in cases 1 and 2. Many students perceived this experience as positive for their learning, with a high likelihood of being able to apply this knowledge in clinical practice, especially in cases 1 and 3. It must be said that, in this category, the participants in case 2 provided little information compared to the other cases.

Discussion

The aim of this study was to explore nursing students' perceptions, thoughts, and emotions about their response to risk for suicidal behaviour through simulated scenarios.

The results indicated a tendency for students to experience negative emotions when dealing with these kinds of situations. The emotions reported by the students in this study coincide in part with the results of other research conducted with graduate nurses (Clua-García et al., 2021), being identified as a barrier in the care provided (Clua-García et al., 2021). Knowledge of the emotional impact of caring for patients at risk of suicide behaviour has been identified as an indispensable factor for improving nursing tools and competences (Vandewalle et al., 2019). Thus, the need for being aware of and reflect on the emotions experienced when dealing with risk for suicidal behaviour has been emphasized so that they do not interfere with their clinical practice (Vandewalle et al., 2019).

The clinical simulation should also promote the learner's self-reflection on the resources available to them when helping a patient, and the competences they possess (or not) when interviewing someone with mental health problems (Øgård-Repål et al., 2018). In this sense, nursing students identified more strengths or achievements than mistakes during their performance. Empathy and active listening were identified as important skills. These are essential skills for working in this type of situations and despite the lack of knowledge, are often present in nursing students (F.-K. Sun et al., 2019). The undisputed importance of these skills has also been identified by survivors of suicide attempts themselves as key areas for improvement in the care provided to them (Hom et al., 2021).

But students also identified the need to continue working on better communication (verbal and non-verbal) and patient care. One of the main problems detected was a lack of self-confidence, which was usually accompanied by the feeling of being puzzled, especially when the patient does not respond as the student expects. Graduate nurses working in clinical settings have expressed this feeling of lack of confidence usually related to the lack of skills needed to care for these patients. Many report not having the option to "choose their patients" and having to deal with these situations despite not feeling comfortable and even experiencing fear, with some patients' lack of communication about their suicidal intentions being a barrier in the management of suicidal ideation (Vedana et al., 2017).

Table 3
Code co-occurrence.

	AnxietyGr = 67	ApplicabilityinclinicalpracticeGr = 29	LearninghowtosolveproblemsGr = 25	Self − confidenceGr = 36	BeingPuzzleGr = 33	PriorknowledgeGr = 28	ControlofthesituationGr = 29	EmpathyGr = 35	ActiveListeningGr = 38	PositiveexperienceGr = 29	PsychopathologicalexaminationGr = 18	InsecurityGr = 40	ImprovingcommunicationGr = 25	ImprovingpatientcareGr = 24	ImprovingnonverballanguageGr = 22	Non − resolutionoftheproblemGr = 18	SituationoutofcontrolGr = 18	TranquillityGr = 28
Anxiety Gr = 67	0	2	8	13	18	7	17	1	0	6	1	24	6	5	5	4	10	7
Applicability in clinical practice Gr = 29	2	0	12	2	2	3	0	0	0	17	0	1	0	0	0	0	0	1
Learning how to solve problems Gr = 25	8	12	0	1	6	3	2	0	0	10	0	4	2	5	0	6	3	1
Self-confidence Gr = 36	13	2	1	0	3	2	14	1	2	3	2	4	0	0	0	1	2	8
Being Puzzle Gr = 33	18	2	6	3	0	4	4	1	0	0	0	16	5	3	1	5	8	4
Prior knowledge Gr = 28	7	3	3	2	4	0	1	0	0	1	0	3	3	2	1	1	4	0
Control of the situation Gr = 29	17	0	2	14	4	1	0	2	4	2	2	0	0	0	0	0	0	5
Empathy Gr = 35	1	0	0	1	1	0	2	0	26	0	6	1	1	0	0	0	0	2
Active Listening Gr = 38	0	0	0	2	0	0	4	26	0	0	8	0	0	0	0	0	0	2
Positive experience Gr = 29	6	17	10	3	0	1	2	0	0	0	0	2	0	0	0	0	0	0
Psychopathological examination Gr = 18	1	0	0	2	0	0	2	6	8	0	0	1	1	1	0	0	0	2
Insecurity Gr = 40	24	1	4	4	16	3	0	1	0	2	1	0	5	4	4	6	8	0
Improving communication Gr = 25	6	0	2	0	5	3	0	1	0	0	1	5	0	8	6	4	2	1
Improving patient care Gr = 24	5	0	5	0	3	2	0	0	0	0	1	4	8	0	5	6	4	0
Improving non-verbal language Gr = 22	5	0	0	0	1	1	0	0	0	0	0	4	6	5	0	1	0	0
Non-resolution of the problem Gr = 18	4	0	6	1	5	1	0	0	0	0	0	6	4	6	1	0	6	0
Situation out of control Gr = 18	10	0	3	2	8	4	0	0	0	0	0	8	2	4	0	6	0	0
Tranquility Gr = 28	7	1	1	8	4	0	5	2	2	0	2	0	1	0	0	0	0	0

Clinical simulation offers the opportunity to acquire these skills in a safe environment (Cantrell, Franklin, Leighton, & Carlson, 2017). The nursing students were aware of these advantages, showing satisfaction with their performance. The acquisition of prior skills through the use of such simulated scenarios in patients with mental problems has already reported positive consequences (Doolen et al., 2014) facilitating the transition from clinical practice to real settings (Alexander et al., 2018). One of the key aspects to be considered for the experience to be successful is the fidelity of the scenario, where the realism of the case would provoke the same emotional elicitation as a real situation (Negri et al., 2017). The realism of the scenarios presented was a positive aspect valued by the students, which was guaranteed by the experience of the MHNs who acted in the case and the knowledge and skills of the instructors.

As for possible differences found according to other factors, a greater number of negative emotions were identified in the latter scenario (BPD case). Looking further into the analysis of the data presented, the anxiety experienced seems to be related to being puzzled during the case and, in some cases, the feeling of loss of control. However, many of them increased their confidence levels as the case was ending, succeeding in managing certain competences through their self-critical thinking (Ross & Carney, 2017). This circumstance could have occurred not only during the case, but also during progressive exposure to different scenarios, as it was in case 1 that stage fright was reported on more occasions. Although there is no consensus, it seems that the practice of simulation could help to decrease anxiety levels and increase self-confidence (Lubbers & Rossman, 2017). Nevertheless, the highest levels of self-confidence were also reported in case 1, so other factors could have affected the students' perception (e.g., patient's diagnosis). In case 1, the patient's hallucinations might have helped the student not to be so directly confronted with the risk for suicidal behaviour since they focused more on exploring hallucinations. In addition, the patient had a certain degree of mutism, with a latency of response, which might even have been an advantage for the student, avoiding an uncomfortable conversation about the incident (Vedana et al., 2018). This situation appears to contrast with the opinion of qualified nurses, who see patients' lack of communication as a problem in addressing suicide behaviour correctly in clinical practice (Vedana et al., 2017).

Case 3 had the added complexity of the patient suffering from BPD and being accompanied by her mother all the time. The characteristics of BPD patients mean that the occurrence of crises is recurrent and identified as unpredictable, and overwhelming. These crises can lead the person through self-harm to suicidality and are experienced as a distressing situation by both family members and the professionals who care for them. This can sometimes lead to family members being identified as an "extra" burden (Warrender, Bain, Murray, & Kennedy, 2021). Participants reported feeling that the situation was out of their control, with a lack of collaboration from the patient and a sense of being puzzled. The advantage of placing students in situations that may be uncomfortable is that by doing so in a controlled and safe environment, where there is an opportunity to express and validate their feelings, they are more likely to develop the confidence and coping strategies necessary to deal with real patients in the clinical setting (Henneman & Cunningham, 2005). This may have led this case to be the most frequently reported as being transferable to clinical practice, as well as useful in their future work as health professionals. Anti-stigma interventions towards BPD conducted with graduate nurses have shown positive results (Sreeram, Cross, & Townsin, 2022). Studies on the impact of simulation in this regard are needed.

In case 2 there was apparently no diagnosis of mental disorder. In this sense the participants identified a greater sense of control over the situation.

To our knowledge, this is the first study that focuses on exploring nursing students' perceptions during their participation in simulated scenarios addressing risk for suicidal behaviour. Previous studies have focused on assessing the impact of the intervention on students' performance, primarily in clinically specialized settings, despite students potentially encountering these situations in any clinical setting (Davison et al., 2017). In this study, the cases were contextualized in non-specialized clinical settings, including a hospital ward, the emergency department, and a primary care clinic.

Employing simulation in this context represents a novel approach, potentially enhancing nursing students' readiness for real-world challenges related to mental health scenarios. The effectiveness of such simulations, hinges on the actors' ability to accurately depict mental health conditions and the nuanced behaviours of individuals with suicidal tendencies. In our case, the authenticity of these portrayals is ensured by involving mental health nurses. However, it's crucial to recognize that this teaching strategy may not align with every student's learning preferences. Adapting teaching methods to accommodate diverse learning styles, ensuring the curriculum is accessible to all students, remains a priority.

Despite the novelty of this study, it presents some limitations that need to be considered. The method of data collection, alongside the type of sampling (convenience sampling in this instance), may have limited the richness of the data. Other studies that have explored students' perceptions of simulation use have employed questionnaires with open-ended questions (Au, Lo, Cheong, Wang, & Van, 2016; Schoening, Sittner, & Todd, 2006). Although this is a first approximation to this context, future studies should consider using in-depth interviews or focus groups.

Conclusions

This study investigated nursing students' perceptions during clinical simulations with patients at risk for suicidal behaviour. The data suggest that clinical simulations contribute to a better understanding of nursing practice with people with mental health problems and the need for training in emotional and therapeutic communication skills among students. The patient's diagnosis could affect the learner's experience. As in other studies, the need for a greater number of clinical simulations to promote the management of stressful situations in health care work is suggested, with an important potential for transfer to real clinical practice.

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CRediT authorship contribution statement

Casta Quemada-González: Investigation, Methodology, Writing – review & editing, Conceptualization. **Elena Flores Becerra-Martos:** Data curation, Formal analysis, Investigation, Methodology, Writing – review & editing. **Morgan Blenkarn:** Data curation, Formal analysis, Investigation, Methodology, Writing – review & editing. **Laura Gutiérrez-Rodríguez:** Investigation, Methodology, Validation, Writing – review & editing. **Silvia García-Mayor:** Methodology, Writing – review & editing. **Álvaro León-Campos:** Methodology, Writing – review & editing. **Celia Martí-García:** Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Writing – original draft, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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