

Anger Expression Modes and its Association with Interpersonal Problem-Solving and Self-Esteem Among Bachelor Nursing Students

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Abstract

Background: Anger is the most frequent emotional problem among nursing students that arises from stress. It might negatively affect overall health, self-esteem; ways of solving interpersonal problems, academic achievement and the quality of care that bachelor nursing students are anticipated to do in the clinical practice. **Aim:** To assess anger expression modes and its association with interpersonal problem-solving and self-esteem among bachelor nursing students. **Design:** A descriptive correlational design. **Setting:** The study was conducted at Faculty of Nursing, Tanta University. **Subjects:** All bachelor nursing students in the fourth academic year 2022-2023 (550 students). **Tools:** Anger Expression Questionnaire (AEX), Interpersonal Problem-Solving Inventory (IPSI) and Rosenberg Self-esteem Scale (RSS). **Results:** A statistically significant positive correlation between anger expression modes (in & out) and maladaptive problem-solving approaches was detected. Moreover, a statistically significant positive correlation was confirmed between anger control mode with adaptive problem-solving approaches and self-esteem. **Conclusion:** It can be concluded that diminished ability to express anger properly among the present students leading them to suppress it inward which consequently result in excessive use of maladaptive problem-solving approaches and negatively affect their level of self-esteem. **Recommendations:** Expressive skill program needs to be implemented for nursing students to learn them how to express anger openly and honestly which will impact positively on their problem-solving abilities and self-esteem.

Key words: Anger expression modes, nursing students, interpersonal problem solving, self-esteem.

Introduction

Nursing students are the core of the professional nurses in the future. They will interact with health care providers and provide the care for patients and their family caregivers regularly (Ali , 2021). Nursing students are more stressed than other colleges students as shown in the Research. (Zheng et al., 2022, Ching et al., 2020) . They have similar demands in addition to a rigorous course load, clinical competency requirements, constant examinations, research papers and assignments, lack of free times and face many challenges about the future occupation (Jacobson& Forbes, 2020). Sustained stress can cause anger which influence on university education and eventually lead to lower quality of nursing care and practice. (Khatoon et al., 2019).

Anger is a universal emotion shared by all people and a natural reaction that arises in a variety of circumstances depending on how people interact with their surroundings. (Hwang &Kim , 2022). Anger can be expressed in three different modes namely; anger-in /out/control. **Anger in mode** refers to the dysfunctional expression of anger, which includes directing anger towards oneself, denying memories or thoughts related to the situation that provoked anger or the extent to which individuals suppress anger which in turn can result sin feelings of remorse, anxiety, low self-esteem, and depression because the person feels responsible for the situation that made them angry (Jun et al., 2021).

The other dysfunctional mode of expressing anger is the **Anger Out** mode. It is conceptualized as expressing anger towards someone or something by

physical act, verbal abuse, insult, or criticism. Those displayed this mode are frequently labelled as aggressors and lack adaptive interpersonal skills. On the other hand, **Anger Control Mode** is considered a functional behavior of anger expression. It is also called assertive anger and includes attempts to handle and express the feeling of anger in appropriate manner and at the same time without violation of the rights and emotions of the other person and utilizing non-aggressive language (Jang &Jeon,2017, Hassan et al.,2019,).

Anger is a frequent yet neglected experience that deserves more attention. Improper expression of anger is closely associated with psychological problems, such as suicide, anxiety, depression, addiction, antisocial behaviors and interpersonal relation problems. (Kang et al 2020). Interpersonal relationship problems include difficulties in initiating and preserving satisfactory interpersonal relationships as well as inability to manage unfavorable relationships (lee et al.,2022).

Interpersonal problem solving has been conceptualized as cognitive - affective behavioral process that includes two different aspects namely ; problem-orientation and problem solving competence (Metz et al., 2023). Problem orientation is considered a high metacognitive ability that includes cognitive and emotional attitude the person assumes in the face of a problem. While problem-solving competence consists of a set of abilities, such as identifying the problem, determining the cause of the problem, generate alternative solutions, anticipate consequences and

implement the best solutions. (Güner&Erbay,2021).

The dynamic of interpersonal problem solving is influenced by many circumstances such as stress in the face of challenges, university education and planning of professional career (Donat et al.,2019). All these challenges increase the psychological burden which can aggravate their anger, affect their problem-solving competences and self-esteem. (González et al.,2016)

The recurrent expression of anger in a negative manner makes students frequently evaluate themselves negatively Chaves et al.2023). The self-esteem of bachelor nursing students is very important because this period is full of fluctuations, in addition to determination of the future professional lives. These fateful decisions require the students to have high self-esteem, psychological balance, peace of mind and effective problem-solving abilities to be able to think clearly and reach to sound conclusion to avoid possible frustration (Almansour, 2023 and Dancot et al., 2020)

Significance of the study

Modes of expressing anger and interpersonal problem solving are significant for nursing students, since they are related to overall health and quality of nursing care in clinical practice. Bachelor nursing students will step toward professional life, so they will interact with patients and their family as well as other health care providers on regular basis. (González et al.,2016& Rahnama et al.,2017).

Assessment of anger expression modes and interpersonal problem solving

among bachelor nursing students are very important because inappropriate anger expression can hamper the development of good working alliances between nursing students and their patients in clinical practice (Aboelyzeed,2022 &Shaban et al.,2012). If they lack interpersonal skills, they will be unable to build a relationship and communicate with patients in a clinical setting which will cause social disengagement, a loss of self-worth, psychological distress, and uncertainty about their career choice. (Reeve et al., 2013)

Today's society requires the nursing students to have high self-esteem to think creatively and produce effective solutions to interpersonal problems. Also empowering bachelor nursing students in the nursing professional life which eventually influence the quality of care provided to patients. (González et al.,2016& Rahnama et al .,2017) .

Aim of the study:

This study aimed to assess anger expression modes and its association with interpersonal problem solving and self-esteem among bachelor nursing students.

Research questions:

- What is the relation between anger expression modes and interpersonal problem solving among Bachelor Nursing Students?
- What is the relation between anger expression modes and self-esteem among Bachelor Nursing Students?
- What is the relation between interpersonal problem solving and self-esteem among Bachelor Nursing Students?

Subject and method:

Research design: This study followed a descriptive correlational research design.

Setting: The study was conducted at the faculty of nursing, Tanta University which affiliated to Ministry of Higher Education and Scientific Research.

Subjects: All bachelor nursing students in the fourth academic year 2022-2023 were participated in this study (550 students).

Tools of the study: -

Tool I: The Anger Expression Questionnaire (AEX)

Part one It includes socio-demographic characteristics of nursing students such as sex, residence, marital status and working while studying.

Part two: - The Anger Expression Questionnaire (AEX)

It was adopted by the researchers from **Spielberger et al.,1985**. It composed of 20 items divided into three subscales describing how an individual handles anger. The Anger-In (AEX-In) describes the anger that is experienced but suppressed (items 3, 5, 6, 10, 12, 14, 15, 18). The Anger-Out (AEX-Out) describes the anger that is expressed towards other people or objects in the environment (items 2, 7, 9, 11, 13, 17, 19, 20). The Anger Control (AEX-Control) describes a person's attempt to manage the anger feelings (items 1,8,16). Anger Total (AEX_TOT) items from 1 to 20. Each item is rated on a 4-point Likert scale (1 = never to 4= almost). A higher score reflects a higher level of anger.

The scoring system:

AEX Subscale	Scoring level		
	Low	Moderate	High
Anger Expression Out (AEX-OUT)	< 11	11: 21	> 21
Anger Expression In (AEX-IN)	< 11	11: 21	> 21
Anger Expression Control (AEX-CON)	< 4	4: < 8	≥ 8
Anger Expression Total (AEX-TOT)	< 27	27: 53	> 53

Tool II: The Interpersonal Problem-Solving Inventory (IPSI):

It was adopted by the researchers from **Cam & Tümkaya , 2007** and used to assess problem-solving approaches among university students. It consists of fifty items divided into five subscales. Each subscale consists of 10 items namely, approaching problems in negative way, constructive problem solving, the lack of self-confidence, unwillingness to take responsibility, and the insistent persevering approach. Students 'responses rated on five-points Likert scale ranged from 1 =strongly disagree to 5=strongly agree. Higher mean scores for each subscale indicate that the characteristics of interpersonal problem solving is higher.

Tool III: Rosenberg Self-esteem Scale (RSS)

It was adopted by the researchers from **Rosenberg, 1965** and used to measure the global self-worth. It is composed of 10 items that. All items are rated on a 4-point Likert scale ranging from strongly disagree =1 point, disagree= 2 points, agree= 3 points and strongly agree= 4 points. The score was reversed on items 2, 5, 6, 8, 9. Higher scores indicate higher self-esteem. The total score as follow:

- < 13= low self esteem
- 13: 26=average self esteem
- 26= high self esteem

Method

The researchers attained an official approval from the Dean of Faculty of Nursing to collect the study data.

-Ethical consideration:

The approval of the Faculty of Nursing Scientific Research Ethical Committee was obtained (Code242-4-2023). The subjects were guaranteed about confidentiality and anonymity of the data and informed about their right to refuse the participation or withdraw from the study at any time.

- A panel of five psychiatric nursing experts evaluated the study tools for content validity.
- A pilot study was carried out on 55 nursing students (10% of subjects) to determine the applicability, relevance, and clarity of the study tools. The required adjustments were made in light of its findings.
- A Cronbach's alpha was used to evaluate the reliability of the study tools and

found to be (0.954, 0.93 and 0.806 respectively)

- The researchers communicated with the instructors who are responsible for bachelor nursing students to arrange with them the most suitable time to send the electronic tool.
- The researchers scheduled a meeting on Microsoft office team with bachelor nursing student to explain the purpose of the study and give them guidance to fill the electronic tools.
- Data was collected during the second term of academic year 2022-2023 through an electronic link developed by the researchers.
- Then the link was sent on the Microsoft Office Team for bachelor nursing students by the researchers. The link included welcoming messages, purpose of the study and study tools.
- The researchers scheduled another meeting with students on Microsoft team office for any clarification regarding the electronic questionnaire and to respond to students ' questions.
- The total duration of data collection three months started from 5/2023 to 8/2023

Statistical analysis:

- The SPSS software version 20 was used to computerize and validate the study data in order to perform tabulation and statistical analysis.
- The quantitative data were computed by mean, range, and standard deviation.
- The two-tailed test with an alpha error of 0.05 was used for all statistical analysis, with (p value) of less than or equal to 0.05 being considered significant.
- Frequency tables were used to illustrate the result of categorical data and tested by chi-square.

- Pearson's correlation coefficient was used to assess the correlation between the variables.

Results

Regarding the sociodemographic characteristics of the studied nursing students. More than half of the studied subjects 65% were female compared to 35% were male. Speaking about residence, the highest percentage of the studied subjects lived in rural areas 83.4% while 16.4% in urban areas. Regarding marital status, the majority of them 83% were single compared to 17% were married. Regarding working while studying, the highest percentage of them 72% were working while studying compared to 28% were not working while studying.

Figure (1) illustrates the distribution of studied subjects according to level of AEX. The figure illustrates that 46.20% of the studied subjects reported moderate level of anger in mode compared to 18.50% who had high level. Regarding anger out, it was noticed that more than half of the studied subjects 58.20% had low level in anger out whereas 5.20% only were high in anger out. Additionally, the figure shows that more than half 54.80% of the studied subjects had low level in anger control compared to only 20.60% who had moderate level. 39.20% of the studied subjects were low in total anger expression compared to 26.20% who were high in total anger expression.

Table (1) shows the mean of the anger expression modes scale among the studied subjects. It can be observed that the highest mean was for Anger Expression In (AEX -In) 12.10 ± 3.47 ,

followed by Anger Expression Out (AEX- Out) 8.4 ± 2.89 while the least mean was for Anger Expression Control (AEX -Con) with a total mean for anger expression is 38.5 ± 6.20 .

Table (2) presents the mean of interpersonal problems solving inventory (IPSI) among the studied subjects. From this table it can be noted that, maladaptive problem-solving skills received the highest mean as follow, Unwillingness to Take Responsibility (UTR), Lack of Self-Confidence (LSC), and Approaching problems in a negative way (APN) 8.96 ± 2.99 , 7.35 ± 2.71 & 6.35 ± 2.51 respectively. On the contrary, adaptive problem-solving skills got the lowest mean, 5.34 ± 2.31 for Insistent-Persevering Approach (IPA) and 3.56 ± 1.88 for Constructive Problem-Solving (CPS)

Figure (2) reveals the distribution of the studied subjects according to their level of self-esteem. It can be noticed that 51% of the studied subjects had a moderate level of self-esteem compared to 28% only who had high level of self-esteem with a total mean score of (18.71 ± 4.32)

Table (3) represents the correlation matrix between anger expression modes, interpersonal problem-solving skills, and self-esteem among bachelor nursing students. There was a highly statistically significant negative correlation between anger expression in/out/total and adaptive interpersonal problem solving skills (CPS and IPA)), while a highly statistical significant positive correlation was found between anger expression in/out/total and maladaptive interpersonal problem solving skills (NSP, LSC&

UTR)). On the contrary, a highly statistically significant positive correlation was detected between anger expression control (AEX-Con) and adaptive interpersonal problem solving skills (CPS &IPA) , while a statistically significant negative correlation was detected between anger expression control (AEX-Control and LSC) but not significant with (NSP and UTR). (P=0.263 and 0 .110 respectively)

Also, it was found a highly statistically significant negative correlation between anger expression in\out\total and self-esteem (P=0.000**, 0.019** and 0.000** respectively). On the other hand, there was a highly statistically significant positive correlation between anger expression control and self-esteem (P=0.000**).

The matrix also revealed a highly statistically significant positive correlation between adaptive interpersonal problem solving skills (CPS&IPA) and self-esteem (P=0.000**), while a statistically significant negative correlation was detected between self-esteem and (LSC and UTR) (P=0.001**) but not significant with (NSP)(p=0.358).

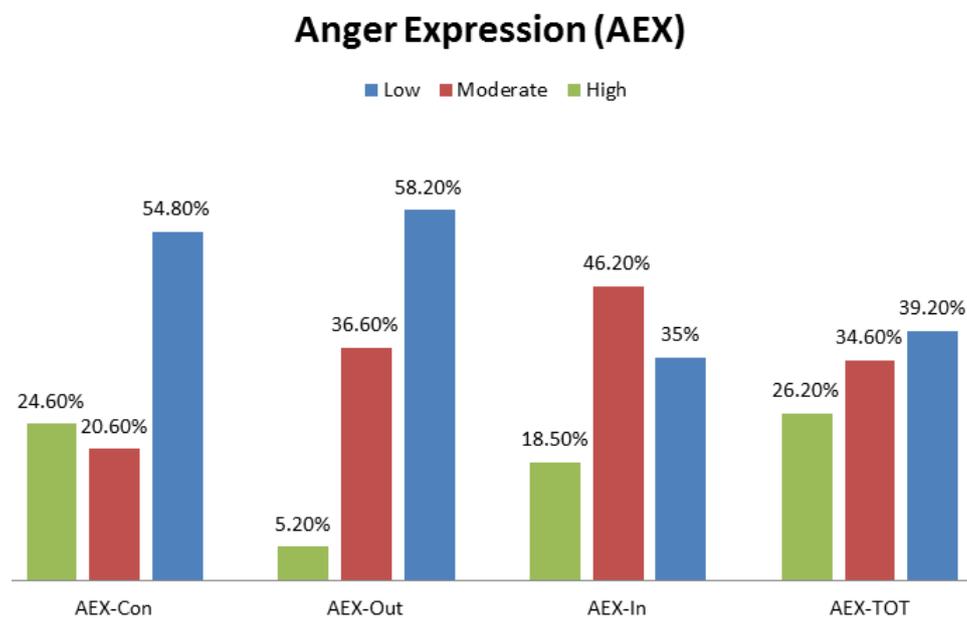


Figure (1) distribution of the studied subjects according to level of AEX.

Table (1) Mean of the Anger Expression Modes Scale among the studied subjects.

Anger Expression Modes	Mean \pm SD	χ^2 p
Anger Expression In (AEX -In)	12.10 \pm 3.47	136.21 0.001
Anger Expression Out (AEX- Out)	8.4 \pm 2.89	
Anger Expression Control (AEX -Con)	6.10 \pm 2.46	
Anger Expression Total (AEX -TOT)	38.5 \pm 6.20	

Table (2): Mean of Interpersonal Problems Solving subscales among the studied subjects.

Items	Mean \pm SD	χ^2 p
Approaching problems in a negative way (APN)	6.35 \pm 2.51	140.17 0.005
Constructive Problem-Solving (CPS)	3.56 \pm 1.88	
Lack of Self-Confidence (LSC)	7.35 \pm 2.71	
Unwillingness to Take Responsibility (UTR)	8.96 \pm 2.99	
Insistent-Persevering Approach (IPA)	5.34 \pm 2.31	

Level of Self Esteem

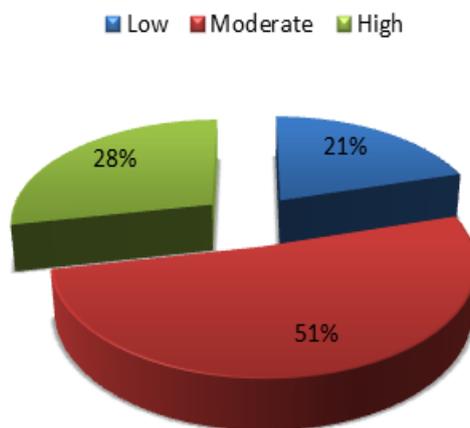
**Figure (2) Distribution of the studied subjects according to their level of self-esteem.**

Table (3) Correlation Matrix between Anger Expression Modes, Interpersonal problem-solving skills, and self-esteem among bachelor nursing students.

AEX	Self esteem		Interpersonal Problems Solving Subscales									
			CPS		IPA		LSC		UTR		NSP	
	r	P	r	P	R	P	r	P	R	P	R	p
Anger In mode	- 0.002	0.000**	- 0.007	0.000**	- 0.013	0.000**	0.319	0.000**	0.219	0.000**	0.913	0.000**
Anger Out mode	- 0.012	0.019**	- 0.163	0.000**	- 0.271	0.003**	0.819	0.000**	0.707	0.000**	0.744	0.000**
Anger Control Mode	0.410	0.000**	0.533	0.000**	0.600	0.000**	- 0.210	0.021*	- 0.109	0.263	- 0.147	0.110
Total Anger Expression	- 0.282	0.000**	- 0.111	0.000**	- 0.421	0.000**	0.710	0.000**	0.353	0.000**	0.461	0.000**
Self esteem	-----	-----	0.388	0.000**	0.889	0.000**	- 0.322	0.000**	- 0.157	0.001**	- 0.722	0.358

Discussion

Nursing students' anger can originate from a variety of sources, considering the demanding nature of their education and future profession. It has detrimental impacts on overall health. Research revealed that appropriate expression of anger plays a crucial role in preserving interpersonal relationships and self-esteem. (Sadagheyani et al., 2021). Hence, the present study aimed to assess anger expression modes and its association with interpersonal problem solving and self-esteem among bachelor nursing students.

According to the current study, more than half of nursing students unable to control their anger and nearly half of them suppressing their anger. They experience and suppress anger instead of controlling it. Suppression of anger has a negative outcome particularly on physical health and mental stability. (Temel et al., 2017). Suppression of anger does not eradicate it; it merely keeps it from being expressed. Nursing students reported that they tend to display avoidance response when there are angry because they may not have any other

alternative to deal with the feelings appropriately. (Choi, 2009). In the same direction, a study by Choi, 2009 found that significant proportion of nursing students belonging to the anger-in mode. Additionally, Moustafa et al., 2022 found that the most of the studied nursing students displayed inappropriate mode of anger expression. In contrast, Lee & Park, 2015 found that nursing students actively controlling and resolving their anger.

This may be due to lack of anger self-control skills that help them to control their anger and express it in appropriate way in addition to lack of anger management training program that can manage nursing students' anger level and teach them the alternatives for handling anger in proper way. This assumption supported by Mostafa et al., 2022 found that while most of the students under study had risky or inappropriate anger expression prior to the program, most of them had appropriate or non-risky expression of anger after the program. Similarly, Jun et al., 2021 revealed that the intervention group had higher mean scores for the anger-control expression

style and significantly lower mean scores for the trait anger, anger-in, and anger-out expression styles when compared to the control group.

This result might be attributed to the high level of stress among nursing students. They persistently exposed to various stressors such as academic burdens, assignments, continuous examinations, in addition to clinical training and interaction with patients and health care providers. Supporting this explanation **Khatoun et al., 2019 & Abo Elyazeed 2022** claimed that Sustained stress can cause anger which negatively affect overall health, academic achievement and the quality of clinical training.

Another assumption for suppressing anger is the influence of culture norms. It displays a substantial role in shaping how individual express anger. In some culture, expressing anger openly is considered forbidden and met with social stigma. Supporting this rational a study by **Hofstede 2001** claimed that there was relationship between cultural dimensions and expressive display rules for anger. Additionally, Childhood trauma such as all forms of abuse and neglect actually or potentially harm the child's health, survival, development or dignity might explain this result. (**McKay 2021**). A child's sense of safety and security can be disrupted by traumatic experiences, which can result in feelings of helplessness, fear, and anxiety. Traumatized children may also find it difficult to control their emotions, which can result in angry or other negative outbursts. **Ade et al 2020**

found significant associations between childhood trauma and anger in adulthood.

Moreover, the fear of rejection in the relationship especially with the clinical nursing staff in the clinical settings. Members of clinical staff may sometimes embarrass the students with negative comments and this lead to nursing students to perceive them as unfriendly or even hostile (**Ab Latif & Nor ,2016 & Yusoff et al.,2011**) . Accordingly, two studies by **Mohamed & Ahmed (2012)** and **El-Zayyat & Al- Gamal (2014)** stated that nursing students view their interactions with clinical nurses as stressful and often use their anger as a source of self-destructive behavior.

The results of this study showed a statistically significant positive correlation between the control mode for expressing anger and adaptive interpersonal problem-solving abilities, such as the insistent-persevering approach (IPA) and constructive problem-solving (CPS). Needless to say that, anger expression control lead to reduction in negative emotions such as sadness, pessimism, and despair which interfere with the person's ability to identifying problem, creating alternative options, decision making and application (**D'Zurilla et al.,1995**). In other words, it helps nursing students to think creatively, brain storming to find the best alternative to solve interpersonal problem and to continue despite difficulties or obstacles.

This goes in accordance with a study conducted by (**Arslan, 2010**) conveyed that there a statistically significant positive

correlation between constructive problem-solving and anger control mode. Moreover, studies conducted by **Park et al .,2006 & Ko , 2007** reported that both inward and outward expression of anger associated with more interpersonal problems. Similarly, **Arslan , 2010** documented that there was a significant negative correlation between adaptive interpersonal problem-solving skills (insisting-preserving approach and constructive problem-solving) and trait anger, anger-in, and anger out modes .

A statistically significant positive correlation was found between self-esteem and anger expression control, but a statistically significant negative correlation was found between anger expression in/out/total and self-esteem. People who lack confidence in themselves find it difficult to assume responsibility for solving problems; instead, they act more recklessly, fearfully, and with more avoidant way. It was similar with a **Atay et al. (2013)** showed that students who experienced anger, unable to control it and displayed anger expression in/out have low self-esteem.

A significant positive correlation was found in this study between nursing students' self-esteem and their ability to solve interpersonal problems in an adaptable way (CPS and IPA). Self-esteem is very important in the process of solving interpersonal problems. When people have self-worth they positively respond to other people and themselves, coping adequately with the challenges of growing and confident in their abilities to achieve what they need and facing disappointments

(**Fawzy et al.,2020**). All of these characteristics help them to think critical, create best solution, think about the consequences and make sound decision. Alongside with this result, **Helly et al 2018 & Gamal 2012** found a strong correlation between nursing students' self-esteem and their capacity for problem-solving.

Conclusion:

Based on the results of the present study it can be concluded that diminished ability to express anger properly among the present students leading them to suppress it inward which consequently result in excessive use of maladaptive problem-solving skills and negatively affect their level of self-esteem.

Recommendations:

- Expressive skill program needs to be implemented for nursing students to help them how to express anger openly and honestly to learn this skill.
- Social skills and assertiveness training intervention should be included in the curriculum of nursing students to increase their ability to recognize their emotions and deal with it constructively.
- Adverse effects of suppression of negative feelings as anger on physical and psychological health should be informed to nursing students to increase their awareness about this risk.
- Several workshops should be planned to teach students about adaptive problem-solving skills and use different clinical examples to apply it in the real situations.

- Self confidence and self-esteem should be enhanced in nursing students through various methods as increase focus on their positive aspects, praise achievement, improve their relationship with the instructors as well as the colleagues, stress the importance of their role in health team and the value of their contribution. All of these will impact on their ability to express themselves confidently and improve their problem-solving skills.

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