The use of the Adaptive and the Maladaptive Cognitive Emotion Regulation Strategies by Nurses Student in Morocco Facing to the Patient Death in a Clinical Setting

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The purpose of this study is to describe the adaptive and the maladaptive cognitive emotion regulation strategies used by nurse's student having experienced the death of a patient in a clinical setting. The study was conducted in the Institute of Nursing and Technical Health of Rabat in Morocco. To carry out this study, 64 nurses student from license cycle have recruited (56,2% female, 43,8% male). 37,5% nurses student are from semester two and 62,5% are from the final semester (S6). The mean age is 20,33±1,67. The tool used to conduct this study is the Cognitive Emotion Regulation Strategies Questionnaire. For the all group, the students use less the adaptive cognitive regulation strategies. However we could say that the use of maladptaive cognitive emotion regulation strategies is in the norms. There was significant difference between males and females in terms of catastrophizing (p<0,001) , self-blame (p=0,01), rumination (p=0,04) with a high scores among females. Compared to the nurses student from the semester two, the nurses student from the final semester had law self-blame, law catastrophizing, law rumination, and high positive refocusing. The study shows that, facing to the death, nurses student underutilized the adaptive cognitive emotion regulation strategies. The use of the maladaptive cognitive emotion regulation strategies is in the norms. However, significant differences related to the gender and to the study level were observed. These results show the great interest of intervention to promote the cognitive emotion regulation strategies while taking into account the gender approach. Other studies are also essential to deepen this aspect to see the impact of its strategies on nurses students' psychological health as well as on their performance.

Keywords: Cognitive emotion regulation strategies; acceptance; blaming others; nurses student, Morocco.

In the life, each person is confronted with several emotional situations and several challenges[1,2].Emotionhas an important impact on cognitive functioning, well-being andinterpersonal relationships[3]. They also play a role in decision-making and episodic memory[4]. The incapacity to regular them expose a psychopathological problems[5,6]. Emotion regulation is one of the main forms of affect regulation[7].This regulation can be extrinsic or intrinsic processes and it isresponsible to monitor, to value and tomodify emotional reactions[8,9]. It can bereduce, maintain or increase reduce, maintain or increase an emotion. This may be conscious or unconscious[7,10], automatic

or controlled[7]. According to Garnefski,emotion regulation refers to abiologicalaspect (tachycardia, tachypnea, perspiration), socialaspect (search for material and interpersonal material), behavioralaspect (Shouting, crying, withdrawing). It can also be a unconscious cognitive processes (selective attention, memory distortions, denial or projection), or consciencesprocesses: Self-blame, blaming others, rumination, catastrophizing, putting into perspective, refocus on planning, positive refocusing, positive reappraisal[11].

The self-blame is thinking of blaming oneself for what happened (Garnefski *et al.*, 2001).A high score of this strategy can easily be associated with symptoms psychopathology[12]. The acceptance isthinkingof accepting event happened and resigning yourself[11]. A high level in this strategy can be related to symptoms psychopathology. A low score can be related to symptoms of psychopathology[12].Refocus on planning refers to think about the next steps and how to manage the negative event[11]. In the absence of actions, a high score can be relatedemotional disorder. However, a very low score is related to emotion problems[12]. Positive refocusing refers of thinkingto happy and enjoyable situations instead of focusing on the stressful event[11]. Thelow score on this strategiecan be linked to a low stats emotional well being[12]. Rumination refersto be preoccupied bythinking on the feelings and thoughts generated by the negative situation. The high values is related to the problems psychopathology[11,12].

Positive reappraisal refers to giving positive meaning to the negative situation. It's generally a positive strategy of coping[11,12]. A low score of this strategy can be linked with emotional disorder[12]. Putting into perspective consists to minimizing the negative event by thinking of other serious events[11]. Catastrophizing refers to recurring thoughts about the severity of the event as the worst experience that can happen to an person. A high score on this strategy is very certainly linked to emotional problems or symptoms ofpsychopathology[12].

A clear relationship has been shown between cognitive emotion regulation strategies and psychological problems. Rumination, Self-blame and Catastrophizing were related to more depression and anxiety symptoms[11,13,13–17].

Related to nursing care, the Bamonti's*et al* study was showed, that nurses who are high scorein acceptance, rumination and blaming others had higher levels of emotional exhaustion. In addition,nurses with high score on positive reappraisal had low levels of depersonalization. The positive correlation was observed between refocus on planning and personal accomplishment and between positive reappraisal andpersonal accomplishment[18]. The other study was showed that, the self-blame is related to the stress among nurses student[19].

Furthermore, nursing is theemotional labour(Smith, 1992; Smith and Gray, 2001) and one of the serious challenges of nurses student in the clinical learning is emotional reactions[20,21]. The most emotional situationsis the death[21–23].This phenomenonis considered as negative event[24,25]. The nurses are differentexperiences and different perceptionof death. They are also different strategies to cope with it[26]. According to the latter study, nurses are notappropriately prepared to cope with patient death.Sharour's results showed that students age andexperienceinfluenced their thoughts, attitudes and emotionstoward death[27].

Conscious that, cultivating useful emotions and dealing with harmful emotions is one of the goals of emotion regulation[28], This study aims to describe the adaptive and the maladaptive cognitive emotion regulation strategies used by nurses student face to the death from Institute of Nursing and Technical Health of Rabat: Morocco.

MATERIALS AND METHODS

The Cognitive Emotion Regulation Questionnaire (CERQ)isa multidimensional questionnaire consisting of 36 items,designedto measure the cognitive emotionregulation strategies after having annegative events or situations[11,16,17]. TheCERQ includes ninecognitive emotion regulation strategies. Five are categorized adaptive strategies:Acceptance (items 2, 11, 20, 29), Positive refocusing (items 4, 13, 22, 31), Refocus on planning (items 5, 14, 23, 32); Positive reappraisal (items 6, 15, 24, 33), Putting into perspective (items 7, 16, 25, 34). Four categorized into maladaptivestrategies: Rumination (items 3, 12, 21, 30), Self-blame (items 1, 10, 19, 28),Dramatization (items 8, 17, 26, 35); Blaming Others (items 9, 18, 27, 36)[1,13,13,17]. All items are evalued by lickert

scale ranging from one(almost never) to five (almostalways).The CERQ can be used in tothe normal populations and the clinical populations[16]. Individual subscale scores are obtained by summing up the scores belonging to the particular subscale (ranging from 4 to 20)[29]. To carry out this study, the Jermann's and all CERQ version[17] was used.

Participants in the current study are from the Higher Institute of Nursing Professions and Technics of Health, Rabat, Morocco. This public institute is under the Ministry of Health of Morocco.The study language is French.

Ethical considerations

The research approach was consistent with ethical requirements. Institutional permission to conduct research hasbeen demandeded. The participants were informed of the objectives of the study.The consent was respected. The confidentiality of the data processing was assured.

Statistical analysis

Cronbach's Alpha were calculated, to measure the internal consistency of the nine subscales of the cognitive emotion regulation strategies. Means, standard deviations, student test, were calculated , to make comparisons related to gender and semester.The Person correlationanalyswas adopted to identify the relationship between age and cognitive emotion regulation strategies.

RESULTS

A total, 64 nurses student from license cycle have recruited (56,2% female, 43,8 % male).62,50 % of them are from the final semester(S6) and 37,50% are from semester 2. The mean age is 20,33 ±1,67.

The table 1 shows that the values cronbach's Alphaare between 0,72 and 0,92for all cognitive emotion regulation strategysubscales (catastrophizing, self-blame, rumination, blaming others, acceptance, putting into perspective, Refocus on planning, Positive refocusing, Positive reappraisal). These results shows theinternal consistency for the nine subscales

The means of all group are as follows: Acceptance (10,78±3,01), self-blame(10,27±1,80) ,catastrophizing (9,86±3,62), rumination (10,81±2,05), blaming others (9,98±2,39), putting into perspective (8,17±1,15), refocus on planning (9,47±0,99), Positive refocusing (10,09±1,06), positive reappraisal (10,78±3,04) .

Regarding the differences in use the cognitive emotion regulation strategies between males and females, there is no significant difference in terms of acceptance, putting into perspective, refocus on planning, positive refocusing, positive reappraisal and rumination (p>0,05). However there is significant difference in terms of self-blame (p=0,01), catastrophizing (p<0 ,001)and rumination (p=0,04). Compared to males, females are high scores in catastrophizing, self-blame, rumination.

Concerning differences related to the study levels (semester) (Table 2), the analysis showed that nurses student in the final semester had law self-blame with significant difference (S1 (11,71±1,16) , S2 (9,40±1,55), p<0 ,001). Of the same they had law catastrophizing (S1(13,71±1,37) , S2(7,55±2,34),p<0 ,001), law Rumination(S1(11,63±1,95) ,S2(10,33±1,97), p= 0,01) and high with significant difference in refocus on planning (S1(9,04±1,04) , S2(9,98±1,12), p= 0,01). However, there is no significant difference between the student's semester two and the student's final semester in the uses the acceptance, the blaming others, the putting into perspective, the positive reappraisal, and the positive refocusing (p>0,05).

Concerning the relation between age and cognitive emotion regulation strategies(Table 3), there is a negative significant correlation between age and self-blame (r=-0,530, p<0 ,001), catastrophizing (r=-0,700,p<0 ,001) and rumination (r=-0,283,p=0,02). However, There is no significant correlation between age and the remainder cognitive emotion regulation strategies (p>0,05).

DISCUSSION

This study describe the adaptive and the maladaptive cognitive emotion regulation strategiesused by nurse's student in Morocco. Results showssignificant difference between females and males in terms of catastrophizing. This is congruent with the results of other studies. Among others[30–32] and discordant with[33]. This is also a significant difference in terms of self-blame, which confirm to[32,34] and discordant with[30,31]. Of the same there is significant difference in terms of

rumination witch consistent with[31,33] and discordant with[30,34]. To note that femalesused self-blame, dramatization and rumination more than males. On the other hand, no difference between females and males in terms of blaming others , which is discordant with[32,33] and consistent with[30,31].

The study show also, no significant differences between male and female nursing students in refocusing in planning which confirms the study of[30,32,34]. The same for, putting into perspective with contrast with[30,33] and concordant with[34]. Also, there is no significant difference in positive reappraisal witch is consistent with[32–34]. Of the same there is no significant difference in the positive refocusing witch is concordant with[32–34]. Finally, there is no significant difference in terms
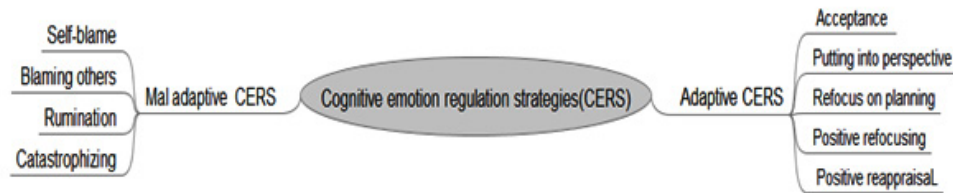
Cognitive emotion regulation strategies [11]

Table 1. Cronbach's Alpha of subscales, means, standard deviation of all group and comparison between males and females in terms of cognitive emotion regulation

	Cronbach's Alpha	Mean (SD Total group)	Mean (SD) males	Mean (SD) females	p
Acceptance	0,87	10,78(3,01)	11,04(3,28)	10,58(2,80)	0,55
Self-blame	0,78	10,27(1,80)	9,64(2,15)	10,75(1,32)	0,01
Positive reappraisal	0,90	10,78(3,04)	10,46(2,81)	11,03(3,22)	0,47
Blaming others	0,87	9,98(2,39)	10,25(2,49)	9,78(2,33)	0,44
Catastrophizing	0,92	9,86(3,62)	7,75(3,73)	11,50(2,56)	<0 ,001
Rumination	0,82	10,81(2,05)	10,21(2,01)	11,28(1,98)	0,04
Putting into perspective	0,72	8,17(1,15)	8,25(1,17)	8,11(1,14)	0,64
Refocus on planning	0,85	9,47(0,99)	9,61(0,99)	9,36(0,99)	0,33
Positive refocusing	0,76	10,09(1,06)	10,04(1,04)	10,14(1,10)	0,70

strategies(n=64)

Table 2. Comparison between nurses student from semester 2 and those from final semester in terms of cognitive emotion regulation strategies (n=64)

	Mean ,SD (S1)	Mean ,SD (S2)	p
Acceptance	10,08(3,03)	11,20(2,95)	0,15
Self-blame	11,71(1,16)	9,40(1,55)	<0 ,001
Positive reappraisal	11,63(2,86)	10,45(3,35)	0,16
Blaming others	10,50(2,73)	9,68(2,14)	0,18
Catastrophizing	13,71(1,37)	7,55(2,34)	<0 ,001
Rumination	11,63(1,95)	10,33(1,97)	0,01
Putting into perspective	8,08(1,14)	8,23(1,17)	0,64
Refocus on planning	9,04(1,04)	9,73(0,88)	0,01
Positive refocusing	10,29(0,95)	9,98(1,12)	0,25

Table 3. Person correlation between age and cognitive emotion regulation strategies among nurses student face to the death (n=64)

	Age	
	r	p
Acceptance	0,08	0,53
Self-blame	-,530	<0 ,001
Positive reappraisal	-0,21	0,10
Blamingothers	-,292	0,02
Catastrophizing	-,700	<0 ,001
Rumination	-,283	0,02
Putting into perspective	-0,06	0,62
Refocus on planning	0,23	0,07
Positive refocusing	-0,03	0,84

in acceptation witch is concordant with[32–34] and discordant with[30,31].

The means of the adaptive cognitive emotion regulation strategies of all group are low than 12. This result show that, the students use less the adaptive strategies (acceptance (11,68±3,98), putting into perspective(10,44±4,40), Refocus on planning 11,49±3,86), Positive refocusing(9,61±2,48), Positive reappraisal(11,34±3,81)). The mean values of adaptive cognitive emotion regulation strategies are low than the jermann'*set al*l values study[17] : acceptance(12.62 ±3.43), putting into perspective (13.04±4.06), refocus on planning 15.24±3.37), positive refocusing (10.21±3.74), positive reappraisal (14.44±3.99). Of the same, the mean values of adaptive cognitive emotion regulation are low than Bamonti's *et al* in the study "Coping, Cognitive Emotion Regulation, and Burnout in Long-Term Care Nursing Staff: A Preliminary Study": Acceptance (11.00±3.60), positive refocusing (11.20±3.60), refocus on planning (13.4±3.7), positive reappraisal (13.60±4.00), putting into perspective (13.20±4.20)[18]. However, we can say that,the use of maladptaive cognitive emotion regulation strategiesis inthe standard[12]: Self-blame (10,27 ±1,80),catastrophizing(9,86±3,62),rumination (10,81±2,05), blaming others(9,98±2,39).

The nurses student in the final semester had law self-blame, law catastrophizing, law rumination, and highrefocus on planning. These results are consistent with the study conducted by Sharourwitch showed that, the students who had higher academic levels had more positive attitude toward[27]. These results could be explained by the nurses student adaptation to the emotional events.Furthermore,There is negative significant correlation between age and self-blame (r=-0,530, p<0 ,001), catastrophizing (r=-0,700,p<0 ,001) and rumination (r=-0,283,p=0,02) but, there is no significant correlation between age and the remainder cognitive emotion regulation strategies. These results go in the same vein withtheSharour's results witch indicted that theolder students have less negative thoughts, attitudes, and emotions toward death[27].

CONCLUSION

The study shows that, facing to the death, the nurses student underutilized the adaptive cognitive emotion regulation strategies. The use of the maladaptive cognitive emotion regulation strategies is in the norms. However, significant differences related to the gender and to the study level were observed. These results shows the great interest of intervention to promote the cognitive emotion regulation strategies while taking into account the gender approach. Other studies are also essential to deepen this aspect to see the impact of its strategies on nurses students psychological health as well as on their performance.

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