Relation Between Self-compassion and Rumination Among Psychiatric Nurses

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ABSTRACT

Background: Self-compassion is essential for psychiatric nurses to deal with difficulties and provide compassionate patient care. Furthermore, the rumination detrimental effect on nurses' mental health via raising their stress and emotional load, which in turn impacts how they evaluate themselves and, ultimately, how compassionate they are with themselves. **Aim of the study:** This study aimed to assess the relation between self-compassion and rumination among psychiatric nurses. **Subjects and methods: Research design:** This study utilized a descriptive correlational design. **Setting:** The study was carried out in the El-Azazi Hospital for Mental Health in the Sharkia Governorate of Egypt's Abo Hamad City, Egypt. **Subjects:** A purposive sample of 100 psychiatric nurses was used. **Tools of data collection:** The Neff's Self-Compassion Scale (SCS) is composed of two parts (a demographic and work-related characteristic questionnaire and the Neff's Self-Compassion Scale (SCS)) and the Ruminative Response Scale (RRS). **Results:** 69% of the studied psychiatric nurses had a moderate level of self-compassion overall, and 76% of studied nurses reported a high level of ruminating. **Conclusion:** Among psychiatric nurses, rumination was a strong negative predictor of self-compassion. **Recommendation:** providing psychiatric nurses training programs in self-compassion and cognitive behavioral intervention to nurses to help them become more self-compassionate and reduce their rumination.

Keywords: Psychiatric nurses, Rumination, Self-compassion.

Introduction

Self-compassion is a coping mechanism that assists people in agreeing to accept their fate and the results of their actions. Through self-compassion, people can establish a clear connection between themselves and their acts, justifying them beyond their negative effects **(Gerber and Anaki, 2020).** Supporting oneself when going through pain or suffering brought on by one's own shortcomings, faults, or outside obstacles in life is a key element of self-compassion (**Neff, 2023).** Three elements make up self-compassion: self-kindness, mindfulness, and common humanity. In contrast to severe self-criticism and self-deprecation, self-kindness is a compassionate attitude toward oneself throughout difficult times. Framing one's pain as a natural aspect of being human and as a practice that binds one to others rather than separating oneself from them is known as "common humanity." Mindfulness is the ability to experience suffering in a balanced state of consciousness without becoming

consumed by negative emotion **(Dreisoerner, Junker, and van Dick, 2021).**

For nurses, self-compassion is essential because it builds resilience, lowers burnout, and promotes compassionate patient care. It has been shown to increase compassion and feelings of empathy for healthcare professionals, empowering them to treat patients with compassion. It also enhances performance by assisting nurses in dealing with mental challenges, ruminative thinking, and failure-related anxiety, which eventually improves patient outcomes and care quality **(Abbasi et al., 2024).**

However, rumination is a preoccupation and a form of overthinking that interferes with different kinds of mental activities and involves excessive, repetitive ideas or issues. These are frequently negative perspectives regarding the past, now, or the future. They may include low self-esteem, despair, and blaming oneself. Rumination is a sign of mood disorders, although it is not a disorder of its own **(Ehring, 2021).**

Brooding and reflection are two aspects of rumination, a behavior linked to disturbance of brain circuits (such as the default mode network). While reflective thinking is defined as intentionally "turning inside to participate with cognitive problem-solving skills to relieve a person's depressive symptoms," brooding is passively comparing one's current circumstances with some unfulfilled standard **(Le et al., 2024).**

Nurses hold a fundamental position within the healthcare framework by rendering direct medical services to patients, and their psychological well-being substantially influences the quality of care delivered and the degree of patient satisfaction **(Alonazi, Alshowkan, and Shdaifat, 2023).** Ruminative thoughts are characterized by persistent contemplation of negative emotions with their origins and repercussions. This prevalent psychological phenomenon among nurses can considerably affect their self-assessment and engender sentiments of inadequacy **(Sun et al., 2022).** Furthermore, nurses who engage in excessive rumination may encounter challenges in maintaining focus on their professional responsibilities and may find it arduous to disengage from work-related stressors, resulting in diminished job satisfaction and heightened levels of burnout **(Zarei and Fooladvand, 2022).**

The work of psychiatric nursing requires self-compassion, which is unique to professional nurses. Empathy and psychological resilience are two of the qualities that nurses must possess to be able to assist people who are dealing with health problems or challenges **(Tehranineshat et al., 2019).** Additionally, it may also serve as a counterbalance to rumination, for studies have shown that lower ruminative tendencies are correlated with higher self-compassion levels **(Svendsen et al., 2022).**

Significance of the study

Self-compassion constitutes a critical attribute that nursing professionals must embody to exhibit empathy and psychological fortitude while assisting individuals confronting health-related challenges. The significance of self-compassion is underscored in its contribution to the cultivation of positive mental health, the formulation of adaptive coping mechanisms, and the facilitation of nurses in delivering exemplary care **(Ali and Duru, 2025).** Furthermore, by promoting emotional resilience and lowering stress levels, self-compassion helps nursing practitioners avoid ruminating and improves their general mental health. This, in turn, promotes a more conducive work atmosphere, ultimately benefiting both nursing professionals and their patients **(Rizal, Egan, and Mantzios, 2021).** Therefore, the aim of this study is to

assess the relation between self-compassion and rumination among psychiatric nursing.

Aim of the study

The aim of this study was to assess the relation between self-compassion and rumination among psychiatric nurses.

Research questions

- What is the level of self-compassion among psychiatric nurses?
- What is the level of rumination among psychiatric nurses?
- Is there relation between self-compassion and rumination among psychiatric nurses?

Subjects and methods

Research design

A descriptive correlational study design was utilized to conduct this study.

Study setting:

The present study was conducted at the El-Azazi Hospital for Mental Health in the Sharkia Governorate's Abo Hamad City, Egypt.

Study subjects

A purposive sample of 100 psychiatric nurses from the aforementioned setting based on the following **inclusion criteria:**

- Give direct care for people with mental illnesses, possess a minimum of one year of experience, be from both genders, and accept to participate in the study.

Exclusion criteria:

- Nurses with chronic physical or mental illness and newly admitted nurses to work in psychiatric nurses.

The sample size was calculated by the following equation:

Sample size = $[(Z\alpha+Z\beta)/C]\ 2 + 3$

The standard normal deviate for $\alpha = Z\alpha$

The standard normal deviate for $\beta = Z\beta$

$C = 0.5 * \ln [(1+r)/ (1-r)]$ **(Hulley et al., 2013)**

Tools for data collection

Tool I The Neff`s Self-Compassion Scale (SCS)

It was divided into two parts

Part1: Demographic and work-related characteristic questionnaire

The researcher created it to evaluate the demographic and occupational traits of mental nurses. Age, gender, marital state, place of residence, educational level, number of family members, income, years of experience, department of employment, and number of weekly working hours were among the questions it asked.

Part 2: The Neff's Self-Compassion Scale (SCS):

Neff (2003) created this scale to assess nurses' levels of self-compassion. It has 26 items that are separated into two dimensions that are positive and negative. The following three subscales are included in each dimension:

Positive dimensions subscales

- *Self-kindness subscale*: This five-item measure evaluates nurses' propensity to treat themselves with kindness when they fail.
- *Common Humanity subscale:* This four-item measure assesses nurses' inclination to view their unique experiences as a part of common human experiences.
- *Mindfulness subscale*: designed to evaluate nurses' propensity to recognize unpleasant feelings and thoughts, and it consists of four items.

Negative dimensions subscales

- *Self-judgment subscale*: this five-item measure evaluates nurses' propensity to be judgmental of themselves when they fail.
- *Isolation subscale:* This has four items and is designed to evaluate

nurses' propensity to see their own experiences as distinct from those of others.

- *The over-identification subscale* examines nurses' propensity to identify with negative feelings and beliefs, and it consists of four items.

Scoring system:

To rate these dimensions, a five-point Likert scale was used. One denotes practically never, two rarely, three occasionally, four frequently, and five almost always. The subscales for negative dimensions are reverse scored when entering data. The greater the subscale score, the higher the level of that dimension. Those with higher scores are more self-compassionate.

The scale has minimum and maximum scores ranging from one to five.

- <2.5 indicates low self-compassion.
- 2.5-3.5 indicates moderate self-compassion.
- 3.5-5.0 indicates high self-compassion.

Tool II: Ruminative Response Scale (RRS):

This instrument, created by **Treynor et al. (2003),** measures how frequently a person has ruminative thoughts while they're depressed or unhappy. The 22-item test is broken down into three subscales:

• Reflection (five items): self-reflection focused on issue solving.

• Brooding (five items) is a passive assessment of one's current situation in light of unfulfilled expectations.

• Twelve items that focused on negative emotions and past failures were associated with depression (depressive rumination).

Scoring system:

The rating system for this measure is a four-point Likert scale. It is divided into four categories: one for virtually never, two for sometimes, three for often, and four for almost usually .

After the scores were totaled, a percentage score was created. The overall score ranges from 22 to 88, with higher scores suggesting a stronger tendency to ruminate. Total percent scores below 60% were considered low, while scores of 60% or above were considered high.

Content validity and reliability

Tools were translated into Arabic using both translation and reverse translation approaches to confirm their original authenticity. Five experts in the field of research were given the tools along with the covering letters and an explanation sheet outlining the study's goal and other pertinent details in order to verify them prior to the pilot study. The validity of all items on these tools was completed by five psychiatric and mental health nursing staff members. The tools were updated for comprehension, comprehensiveness, application, clarity, and relevance. Their suggestions were considered.

Cronbach's α test was used to evaluate the instruments' reliability. They display a high degree of reliability in the following ways: Rumination scored 0.877, while self-compassion scored 0.829.

Field work

The findings of the pilot study indicated that it took roughly 30 to 40 minutes to complete the tools. From the end of August to the end of October 2024, the researcher collected data for two months. On Saturday and Tuesday, from 10 a.m. to 2 p.m., the researcher visited El-Azazi Hospital, Egypt.

After receiving the necessary authorization to conduct this study, the researcher talked to the head nurse and the hospital manager to discuss the purpose of the study and the information-gathering forms, get their

cooperation, and get their agreement before beginning data collection**.** Then, the researcher introduced the study to the psychiatric nurses and explained its purpose. Confidentiality and voluntary involvement were guaranteed. Nurses responded to the questionnaire.

Pilot study

A pilot study was performed on 10 nurses, or roughly 10% of the study population, to guarantee the tool's comprehensiveness and clarity. According to the pilot study's findings, the tool didn't require any changes.

Administration and ethical consideration

First, the study proposal was approved by the Research Ethics Committee (REC) at the Faculty of Nursing, Zagazig University with the code M.D.ZU.NUR/209/12/5/2024. The director of the El-Azazi Hospital for Mental Health in Abo Hamad City received an official letter from the dean of Faculty of Nursing, Zagazig University granting authorization to perform the proposed study before any further action could be taken. In light of this, the hospital director and the nursing director granted permission to carry out the study. Clear directions were provided for completing the scales. Participation was entirely voluntary, and participants might leave the study at any moment without providing a reason. Additionally, all of the data was coded to ensure participant anonymity and confidentiality.

Statistical analysis

The statistical analysis, tabulation, and data collection were conducted using IBM SPSS Statistics for Windows (Version 25). The mean ± SD was used to convey quantitative data, while absolute frequencies (numbers) and relative frequencies (percentages) were used to express qualitative data. Chi-squared or Fisher exact tests were used to compare the percentage of categorical variables. The Pearson correlation coefficient was calculated to assess the relationship between the research variables; a value near 1 denotes a strong connection, a value near 0 denotes a weak correlation, and a (+) sign denotes a direct association, and a (-) sign denotes an inverse correlation. Additionally, characteristics influencing sleep quality, rumination, and overall self-compassion scores were predicted using multiple linear regression (stepwise). To evaluate the scales' internal consistency and dependability, the Cronbach alpha coefficient was calculated. P-values ≥ 0.05 were regarded as statistically non-significant, p-values < 0.05 as statistically significant, and p-values < 0.01 as very statistically significant.

Results

According to table 1, 53% of the study's psychiatric nurses were under 30 years old, with a mean ± SD (35.00±7.07); 80% were female, 85% were married, 70% were from rural areas, 58% had less than five family members, 47% had a technical institute of nursing, and 55% had an adequate income. This table shows that 39% of the nurses who were examined had more than 10 years of experience, 79% worked fewer than or equal 60 hours per week, and 67% were employed in the male department.

Table 2 shows that the highest mean score was for nurses' over-identification dimension (3.43±0.79), followed by isolation (3.42±0.85), and the lowest mean score was for the studied nurses' common humanity (3.07±0.81). Additionally, the mean ± SD for overall self-compassion is 3.25 ± 0.47. 69% of the studied nurses had a moderate level of self-compassion.

Figure 1 shows that 76% of the psychiatric nurses in the study had a high rumination level.

According to table 3, there was a highly significant correlation (p=0.001) between nurses' self-compassion and their years of experience, gender, and educational level. It is clear that nurses with more than ten years of experience, those with a bachelor's degree, and male nurses showed higher levels of self-compassion.

Based on table 4, there was a statistically significant correlation between nurses' rumination and their weekly working hours, years of experience, and income. It is clear that nurses who earned enough money, had more than ten years of experience, and worked fewer than or equal sixty hours a week were more likely to ruminate.

Table 5 portrays that there was a highly statistically significant negative correlation between rumination and self-compassion (p<0.001).

Table 6 shows that higher education was a highly statistically significant independent positive predictor of self-compassion for nurses. However, a highly statistically significant negative predictor of self-compassion was their rumination. The R-square value shows that 27% of the variation in self-compassion can be explained by the model.

Discussion

Based on demographic and occupational characteristics, the present study's findings showed that the majority of the psychiatric nurses were married women, with more than half of them being under 30. This could be explained by the popular idea in our Egyptian community that nursing is a career better left to women, and those women are often viewed as nurturing and caring, attributes that are congruent with nursing, which is why more women are recognized in the nursing profession than men. Regarding the workplace, over two-thirds of nurses worked in the male department. This is because there are more male patients than female patients at the data-gathering location. Concerning years of experience, around two-fifths of them had over 10 years. This is because, in contrast to bachelor nurses, technical nurses begin their employment earlier because they have completed fewer educational years.

This finding is consistent with an Egyptian study performed by **Ahmed et al. (2024)** that found that most of the nurses were less than 30 years old, and the majority of them were female and married and had a technical institute of nursing. Additionally, an Egyptian study conducted by **Hussein and Mohamed (2020) revealed** that all of the nurses in their study were women, most of them were married, and over half had more than ten years of experience.

Regarding self-compassion, the current study findings revealed that the majority of studied nurses had a moderate level of self-compassion; this answers the first research question. According to the self-compassion subscale, the highest mean score was for the over-identification subscale, and the lowest mean score was for the common humanity subscale of self-compassion. This could be because psychiatric hospitals can cause identity struggles and isolation through workplace stigma and exposure to complex cases involving aggression and suicide. This creates high stress and inadequate support, leaving nurses feeling misunderstood. However, psychiatric nursing also develops self-awareness, empathy, and understanding of emotional self-care through its compassionate approach.

These findings were supported by **Kurebayashi (2021),** who revealed that the highest mean score was for the over-identification subscale and the lowest mean score was for the common humanity subscale of self-compassion, and most of the nurses had a moderate self-compassion level.

Similarly, a study conducted in Egypt by **Behilak et al. (2024)** reported that most of the studied psychiatric nurses had a moderate self-compassion level.

This result is partially contradicted by an Egyptian study by **Abdelraof and Abdelglil (2025),** which found that the self-judgment dimension of self-compassion had the highest mean score, and the mindfulness dimension had the lowest mean score. Moreover, the majority of their studied nurses had moderate levels of self-compassion.

Additionally, this study finding is incongruent with the Iranian study by **Nosratabadi et al. (2023)**, who indicated that self-compassion was higher in psychiatric nurses than in non-psychiatric nurses. They also found that the self-kindness dimension of self-compassion had the highest mean score, whereas the isolation dimension had the lowest.

Regarding the relation between the studied nurses' self-compassion and their characteristics. The present study results showed that a highly statistically significant relation was found between psychiatric nurses' self-compassion and their gender, educational level, and years of experience. Self-compassion was high among male nurses, those who have a bachelor's degree in education, and those who have more than 10 years of experience. This was supported by best-fitting multiple linear regression models for self-compassion; level of education was a statistically significant independent positive predictor of self-compassion.

This may be because male nurses may experience less pressure in nurturing roles compared to females in psychiatric settings. Higher education increases confidence and job satisfaction, leading to higher self-compassion when facing challenges. Experienced nurses develop effective stress management skills and diverse coping strategies that enhance self-compassion. These factors may contribute to an increase in self-compassion.

This result was in line with an Egyptian study conducted by **Behilak et al. (2024)**, which indicated that male psychiatric nurses had higher levels of self-compassion than female nurses, and those with higher educational qualifications had high self-compassion levels. Similarly, a study conducted by **Abbasi et al. (2024)** revealed that nurses with more than 10 years of experience demonstrated better patient care practices and a higher self-compassion level compared to those with less experience.

These results partially disagree with a study conducted by **Derang, Pujiastuti, and Sinaga (2023)**, which demonstrated that female nurses and those with higher education levels, particularly registered nurses, exhibit higher self-compassion. Furthermore, younger nurses with 5 years of experience had higher self-compassion levels. On the contrary, **Joy et al. (2023)** showed in their study that there was no association between nurses' self-compassion and their age, gender, marital status, or years of experience in the organization.

Regarding rumination, the study findings clarified that more than three-quarters of the studied nurses had a high rumination level; this answers the second research question. That may be explained by the fact that psychiatric nurses are constantly exposed to psychologically and emotionally intense situations, such as suicide risk, aggression, or severe mental illness, and may also carry patients' traumatic stories or difficult experiences in their minds, resulting in internal replay or overthinking, which can lead to repetitive thinking after shifts so that they are prone to rumination. Furthermore, their tendency to ruminate may stem from unexpressed emotions, personality traits, and high professional demands.

These results agree with an Egyptian study by **Abdelfattah (2024)** that denoted that nearly half of the nurses exhibited elevated levels of ruminative thought. Similarly, a study in Turkey by **Zengin and Orak (2023)** denoted that nurses had a high ruminative thought level.

This result contradicted the results of a Chinese study done by **Li et al. (2021),** which found that the rumination level among psychiatric nurses was low.

As regards the relation between the studied nurses' rumination and their characteristics. The study results clarified that there was a highly statistically significant relation between nurses' rumination and their years of experience, as rumination was higher among psychiatric nurses who had more than 10 years of experience. These outcomes may be the result of more experienced nurses who have dealt with a variety of professional and personal challenges during their careers. The combined effect of these stressors may promote rumination as people reflect on their prior experiences and present challenges. Furthermore, these nurses frequently place perfectionist standards on themselves, resulting in self-blame when patient outcomes are negative.

In accordance with this finding, **Abdelfattah (2024),** who conducted a study in Egypt, showed that there were significant relationships between nurses' age and years of experience and their ruminative thought level. Likely, studies conducted in China by **Yi et al.** (**2024) and Li et al. (2022)** revealed that rumination level increased with increasing age and more working years.

On the contrary, a Chinese study **(Shao et al., 2024)** showed that less experienced nurses may experience more significant ruminative thoughts after patient safety incidents. Additionally, a study conducted in the United States by **Pindek and Gazica (2020)** indicated that experienced nurses may have developed coping mechanisms that reduce the impact of stressors on rumination.

This study's results revealed that there was a statistically significant relation between nurses' rumination and their income and number of working hours per week, as rumination was higher among nurses working less than or equal 60 hours per week and those who had sufficient income. This could be because nurses with restricted work hours experience limited schedule control, leading to dissatisfaction and increased rumination. Insufficient recovery time from highly stressful situations promotes repetitive negative thoughts about their performance, including self-doubt about handling challenges.

Furthermore, even with sufficient income, psychiatric nurses are responsible for patient care, safety, and life-threatening situations. This responsibility level can create ongoing stress and cause nurses to repeatedly dwell on their decisions or interactions for fear of making a mistake or missing something crucial. Finally, although the income is sufficient, they think a lot about their responsibilities and challenges that they face in the work environment.

This finding is in line with a study conducted by **Vandevala et al. (2017)**, which demonstrated that longer working hours were associated with increased stressors, depression, and increased rumination. Another supporting study was carried out by **Cropley et al. (2023)**, which indicated that the nurses working more than 30 hours per week reported higher levels of work-related rumination.

These results disagree with a Chinese study conducted by **Cao et al. (2024)**, which indicated that income level had a significant relation with ruminative thoughts, as nurses with lower incomes were more likely to ruminate.

The result of this study revealed that there was a highly statistically significant negative correlation between rumination and self-compassion. Nurses with low self-compassion levels may view this as a greater probability of engaging in repetitive thinking; this answers the third research question. This was supported by the best-fitting multiple linear regression models for rumination score; the nurses' self-compassion was a highly statistically significant negative predictor of rumination. It could be caused by nurses trapped in rumination cycles who blame themselves, regard their suffering as unique, and become emotionally overwhelmed, limiting their ability to respond carefully to themselves.

This result was supported by **Yamasaki, Sampei, and Miyata (2024)**, who found that there were significant negative correlations between self-compassion and rumination ($p < 0.05$) so that higher rumination was significantly associated with lower self-compassion. Similarly, this result is in line with a study conducted by **Ramon, Possemato, and Bergen-Cico (2021)**, who indicated that self-compassion was a negative predictor for rumination among nurses.

Conclusion

In light of the study's findings and answer of research question, it was concluded that psychiatric nurses had a moderate self-compassion level and high level of rumination. Furthermore, nurses' rumination was a statistically significant negative predictor of self-compassion. This indicates that the more rumination psychiatric nurses were the less self-compassion they experienced.

Recommendations

Based on the study findings, it was recommended to:

- Provide intervention programs and training courses on cognitive coping strategies, such as mindfulness and cognitive-behavioral techniques, for psychiatric nurses to improve their self-compassion and minimize rumination.
- Further research to implement longitudinal studies to prove an association between rumination and nurses' self-compassion is recommended.

Authour's contributions

M.S. worked to design the study, assessed and interviewed the sample, collected and analyzed the data, interpreted the data, and revised the article; she is also the corresponding author. The research idea was proposed by Professor S. M., H.H., and Doctor H. SH.; they also played a significant role in gathering data and composing the article and contributed to the study design, collecting, and analyzing the data for the manuscript. All authors have read and approved the final manuscript.

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Declaration of conflicting interest

The authors declare that there is no conflict of interest.

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Table 1: Demographic and work-related characteristics of studied nurses (n=100)

Demographic and work-related characteristics	No.	%
Age		
<30	53	53.0
≥30	47	47.0
Mean± SD	35.00±7.07	
Gender		
Male	20	20.0
Female	80	80.0
Marital status		
Single	13	13.0
Married	85	85.0
Widow	1	1.0
Divorced	1	1.0
Residence		
Rural	70	70.0
Urban	30	30.0
Educational level		
Diploma (Nursing school diploma)	13	13.0
Technical institute of nursing	47	47.0
Bachelor's degree	37	37.0
Post- graduate studies(master)	3	3.0
Number of Family members		
<5	58	58.0
5-10	35	35.0
>10	7	7.0
Income		
Sufficient	55	55.0
Insufficient	45	45.0
Years of experience		
<5	31	31.0
5-10	30	30.0
>10	39	39.0
Work department		
Female department	33	33.0
Male department	67	67.0
Number of working hours per week		
≤ 60hrs	79	79.0
> 60hrs	21	21.0
Mean ± SD	56.87± 14.62	

Table 2: Frequency distribution of total self-compassion and its dimensions among studied nurses (n=100)

Score	Low		Moderate		High		Mean± SD
	No.	%	No.	%	No.	%	
Self- Kindness	23	23.0	40	40.0	37	37.0	3.18±0.89
Self –Judgment	15	15.0	35	35.0	50	50.0	3.17±0.79
Common Humanity	17	17.0	48	48.0	35	35.0	3.07±0.81
Isolation	10	10.0	36	36.0	54	54.0	3.42±0.85
Mindfulness	25	25.0	46	46.0	29	29.0	3.30±0.83
Over-identification	8	8.0	39	39.0	53	53.0	3.43±0.79
Total	1	1.0	69	69.0	30	30.0	3.25±0.47

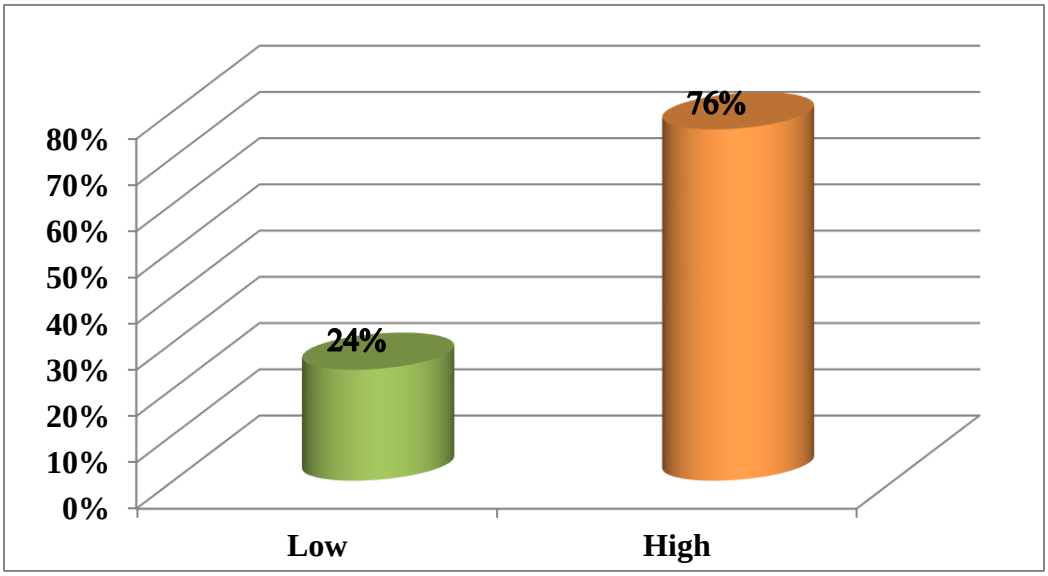

Figure1: Total rumination among nurses in the study sample (n=100)

Table 3: Relation between nurses' self-compassion, demographic and work-related characteristics (n=100)

Demographic and work-related characteristics	Self-compassion						χ 2	p-value
	Low=1		Moderate=69		High=30			
	No.	%	No.	%	No.	%		
Age								
<30	1	100.0	33	47.8	19	63.3	2.914	0.233
≥30	0	0.0	36	52.2	11	36.7		
Gender								
Male	0	0.0	1	1.4	19	63.3	50.299	0.001**
Female	1	100.0	68	98.6	11	36.7		

Marital status								
Single	0	0.0	7	10.1	6	20.0	4.842	0.564
Married	1	100.0	61	88.4	23	76.7		
Widow	0	0.0	1	1.4	0	0.0		
Divorced	0	0.0	0	0.0	1	3.3		
Residence								
Rural	1	100.0	47	68.1	22	73.3	0.704	0.703
Urban	0	0.0	22	31.9	8	26.7		
Educational level								
Diploma(Nursing school diploma)	1	100.0	12	17.4	0	0.0	73.178	0.001**
Technical institute of nursing	0	0.0	47	68.1	0	0.0		
Bachelor's degree	0	0.0	8	11.6	29	96.7		
Post-graduate studies (master)	0	0.0	2	2.9	1	3.3		
Work department								
Female department	1	100.0	23	33.3	9	30.0	2.156	0.340
Male department	0	0.0	46	66.7	21	70.0		
Number of Family members								
<5	1	100.0	37	53.6	20	66.7	2.556	0.635
5-10	0	0.0	26	37.7	9	30.0		
>10	0	0.0	6	8.7	1	3.3		
Income								
Sufficient	1	100.0	37	53.6	17	56.7	0.905	0.636
Insufficient	0	0.0	32	46.4	13	43.3		
Years of experience								
<5	1	100.0	27	39.1	3	10.0	49.412	0.001**
5-10	0	0.0	30	43.5	0	0.0		
>10	0	0.0	12	17.4	27	90.0		
Number of working hours per week								
≤ 60hrs	1	100.0	55	79.7	23	76.7	0.385	0.825
>60hrs	0	0.0	14	20.3	7	23.3		

χ^2 : Chi square test non-significant(p>0.05), **: statistically highly significant (p<0.01)

Table 4: Relation between nurses' rumination, demographic and work-related characteristics (n=100)

Demographic and work-related characteristics	Rumination score				χ 2	p-value
	Low=24		High=76			
	No.	%	No.	%		
Age						
<30	15	62.5	38	50.0		0.351
≥30	9	37.5	38	50.0		
Gender						
Male	5	20.8	15	19.7		0.99
Female	19	79.2	61	80.3		
Marital status						
Single	3	12.5	10	13.2	0.661	0.882
Married	21	87.5	64	84.2		
Widow	0	0.0	1	1.3		
Divorced	0	0.0	1	1.3		
Residence						
Rural	19	79.2	51	67.1		0.315
Urban	5	20.8	25	32.9		
Educational level						
Diploma (Nursing school diploma)	4	16.6	9	11.8	1.054	0.788
Technical institute of nursing	12	50.0	35	46.1		
Bachelor's degree	7	29.2	30	39.5		
Post- graduate studies (master)	1	4.2	2	2.6		
Work department						
Female department	6	25.0	27	35.5		0.457
Male department	18	75.0	49	64.5		
Number of Family members						
<5	17	70.8	41	53.9	3.414	0.181
5-10	7	29.2	28	36.9		
>10	0	0.0	7	9.2		
Income						
Sufficient	9	37.5	46	60.5		0.031*
Insufficient	15	62.5	30	39.5		
Years of experience						
<5	18	75.0	13	17.1	29.208	0.001**
5-10	4	16.7	26	34.2		
>10	2	8.3	37	48.7		
Number of working hours per week						
≤ 60hrs	15	62.5	64	84.2		0.041*
>60hrs	9	37.5	12	15.8		

χ^2: Chi square test non-significant (p>0.05),

*: statistically significant (p<0.05), **: statistically highly significant (p<0.01).

Table 5: Correlation matrix of nurses' scores of self-compassion and rumination (n=100).

Scores	Self-compassion	
	R	P
Rumination	-0.593	<0.001**

r: correlation coefficient, **: statistically highly significant (p<0.01).

Table 6: Step wise multiple linear regression for the self –compassion score (n=100)

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**	**95.0% Confidence Interval for B**	
	B	**Std. Error**	**Beta**			**Lower Bound**	**Upper Bound**
(Constant)	3.551	.295		12.028	.000	2.965	4.137
Rumination score	-.020	.004	**-.450**	-5.157	**0.000****	-.028	-.013
Educational level	.177	.058	**.270**	3.032	**0.003****	.061	.293

: statistically significant (p<0.05)
****: statistically highly significant (p<0.01)***
R-square=0 .276, ANOVA: F= 12.193, P<0.001, variables entered and excluded: age, gender, marital status, residence, number of family members, income, years of experience, number of working hours per week, and work department.

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