International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 07 Issue: 10 | October - 2023 SJIF Rating: 8.176 ISSN: 2582-3930

# Non Suicidal Self-Injurious Behavior And Emotional Dysregulation Among College Students: Karnataka India

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## ABSTRACT

**Background:** It is necessary to understand that self-harm is the most common behavior in both suicide and non-suicidal self-injury (NSSI) though those are not interrelated. Both result in physical damage to better or cope, whereas behaviors related to suicide are undertaken to end the capacity to feel at all by ending one's life.

**Aim:** The aim of the study was to explore NSSI behavior and emotional dysregulation among college students and find relationship between NSSI behavior and emotional dysregulation.

**Methods:** A descriptive cross-sectional survey was carried out and total 896 college students were selected by multistage cluster sampling method from one district of Karnataka, India. The data was collected using FASM and DERS tool.

**Results:** The study revealed that 21.9% of the participants were found to have NSSI behavior. Participants were having both minor behavior (66.84%) and severe behavior (71.94%) of NSSI. Mean age of onset of NSSI behavior was 16.88 years. The present study found significant relationship between NSSI behavior and emotional dysregulation (*t* value: 4.19, *p* value: <0.01). Participants were having emotional dysregulation with mean value of 100.32.

**Conclusion:** The findings of the study show the need to increase the awareness and understanding of NSSIs and to plan targeted interventions among college youth. An information booklet on emotion regulation strategies was developed by the researcher to improve students' knowledge and awareness.

***Keywords***

NSSI (Non-suicidal self-injury), Emotional dysregulation, FASM (Functional Assessment of Self-Mutilation) questionnaire, DERS (Difficulties in Emotional Regulation Scale)

## Introduction

Self-harm is very well-known terminology; especially it fits in newer generation. Mascarenhas Anuradha (2016) stated in the report of London-based Lancet Commission on Adolescent Health and Wellbeing, that, among Indian adolescents and young adults (15 to 24 years), self-harm is the prior cause of death. According to the report, approximate sixty thousand Indians of the mentioned age group died because of self-harm in 2013. (Mascarenhas, 2016)

A study among 94 young adolescent (10-24 years) girls (49% Hispanic; 25% African American) reported that 56% of adolescents were engaged in NSSI behavior during their life time including thirty six percent in the past year. Non-suicidal self-injury was associated with interpersonal distress for peer victimization for quality of peer communication and social reinforcement, moderated this relationship. (LM Hilt, 2008)

A cross sectional study among 3060 Swedish adolescents (15-17 years), reported that in the last year 1088 (35.6%) adolescents had undergone minimum 1 episode of NSSI, among them 6.7% (205 participants) met criteria mentioned in DSM-5 for a diagnosis of potential NSSI disorder. Significantly girls (11.1%) were more common. Mean age of onset for NSSI was 13.9 years (SD=1.7). The most frequently reported type of NSSI behavior during the past year, was "bit yourself" (56.0 %), "hit yourself on purpose" (43.7 %), "'erased' your skin" (32.8 %) and "cut or carved on your skin" (32.6 %). The least common were "Gave yourself a tattoo" (9.1 %) and "pulled your hair out" (16.6 %). (M Zetterqvist, 2013)

Relationship between NSSI, emotion dysregulation, internalizing symptoms, and suicidal behaviors among 148 undergraduate college students in New Jersey was assessed. Results concluded that emotional dysregulation has significant indirect effect on NSSI. (Amy Kranzler, 2016). In USA an online survey concluded that NSSI behavior is directly associated with sexual minority (lesbian, gay, bisexual, transgender, queer, questioning) stress. (Muehlenkamp J Jennifer, 2015). Prevalence rate of NSSI behavior among adolescents and young adult in India was 33.8% and mostly reported minor forms of self-injury. (Bhola P, 2017)

Mood regulation, miscommunication, and addictive qualities were found as motivational factor associated with cutting. (Morales Madrid Yolanda, 2014). A systematic review showed that India may have lifetime prevalence of NSSI more than international average. (Gandhi Amarendra, 2016). Emotional dysregulation was found as the primary risk factor of developing NSSI behavior among 99 adolescent girls who are admitted in psychiatric hospital in Europe. (Adrian M, 2011)

Lifetime prevalence of NSSI was found to be 17% and 21% in psychiatric inpatients of a large tertiary hospital in Mumbai and 120 young adults studying in a medical college in Mumbai respectively. Although the prevalence of NSSI did not significantly differ between the two samples, some features of NSSI did differ between the two groups. (Amarendra Gandhi K. L., 2020)

As the NSSI disorder recently included in DSM-5 criteria as a distinct disease condition so that till now there are few studies which have done in Indian population, where as it has significant prevalence rate in western country. Thus, the researcher felt need of describing population who shows behavior of NSSI and its relation with emotion dysregulation to generalize the outcome of the research.

**Objective:** The objectives of the study were to

- assess the NSSI behavior among college students and find emotional dysregulation.
- determine the relationship between NSSI behavior and emotional dysregulation.
- find the association between NSSI behavior, emotional dysregulation & selected variables.

**Materials & Methods:**

Quantitative research approach and descriptive survey design was adopted for the study. The study was carried out from January to February 2019 among 896 degree students between the age group of 18–24 years chosen from selected colleges of Udupi district, Karnataka, through multistage cluster sampling. By using simple random method Karkala taluk has been selected among three taluks of Udupi district. Among all 14 colleges of Karkala taluk, three colleges were selected by using simple random method. For selecting sample from colleges non probability cluster sampling technique was used. The sample size was calculated based on the estimation of proportion**.**

Background information tool was developed by the researcher to collect the demographic data and information related to risk factors of NSSI behavior from the study participants. To measure frequency, methods, characteristics and reasons of NSSI behavior, FASM (Functional Assessment of Self-Mutilation) questionnaire was used. FASM is a standardized tool, with a pre-established internal consistency (coefficient alpha: 0.65-0.66), developed by Lloyd-Richardson, Kelly, & Hope, 1997 and modified again in 2007. Methods are classified as Moderate/Severe and Minor. Reasons are classified in four subscales i.e.

Automatic negative reinforcement, Automatic positive reinforcement, Social negative reinforcement, and Social positive reinforcement. The tool consists of total eight parts. (Nock K Matthew, 2004)

The DERS is another standardized tool, with pre-established reliability of 0.93, developed by Gratz K.L & Roemer, E. Consists of total 36 items with six domains namely non-accept, goals, impulse, awareness, clarity, strategies. It measures emotion regulation with a five-point likert scale, scoring range from 1=almost never (0-10%), 2= sometimes (11-35%), 3=about half the time (36-65%), 4=most of the time (66-90%), 5=almost always (91-100%). It has 11 reversed score items. Higher score suggests greater problem with emotion regulation. Score range is between 36 and 180. (Gratz L Kim, 2004)

All data collection instruments were validated to be used in the Indian population by doing a content validity assessment by seven experts in the field of psychiatry, psychology and pediatric. Reliability of the tool FASM, DERS was done using Test-Retest (Karl Pearson's correlation coefficient), Cronbach's alpha respectively. Tools were found to be reliable with the score 0.99, 0.94 respectively. The approval for this study was granted by the Institutional ethics committee (Kasturba Medical College and Kasturba Hospital Institutional Ethics Committee, IEC No. 642/2018) dated on 10$^{th}$ October, 2018 and registered in Clinical Trials Registry-India (CTRI, Registration no.: CTRI/2018/12/016546). Formal administrative permission was obtained from the selected colleges before the study. Prior to data collection, willing participants were explained about participant information sheet (PIS) and the purpose of the study. Written informed consent was obtained from each participant. Researcher distributed three validated questionnaires among participants. The participants filled the questionnaire and returned it to the researcher on the same day. The confidentiality of the data was maintained.

One Information booklet was prepared by the researcher after reviewing the related literatures extensively to convey the knowledge on strategies of regulating emotion and its importance. It includes causes, symptoms of emotional dysregulation along with indications of seeking medical help as well as tips and suggestions to regulate emotions. This was distributed among each participant after collecting data.

The data was analyzed by using SPSS version 16.0 software. Based on the objectives of the study, descriptive, inferential statistics were used to analyze the data. Significance level was taken as 0.05.

**Results:**

Collected data concludes, Total 39.1% of Students belonged to 18 years age group, 57.6% were female. Majority of the students (93.1%) were studying under graduation. Among all the participants, 74.6% of them were staying at home and 19.6% at hostel. Maximum number of participants (65.1%) were belonging from

nuclear family. Significantly 11.9% participants' parents got married within blood relation. Majority students (61.7%) were from rural area. Most of their (47.5%) family income was Rs/- 6327-18,949.

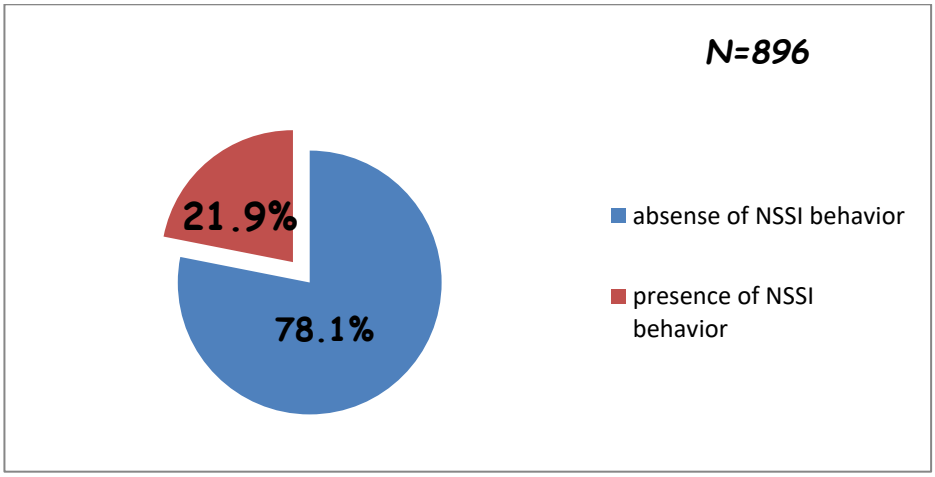


**Figure 1**

*Pie chart showing NSSI behavior of students in the past one year*

Figure 1 provides information regarding occurrence of NSSI behavior in the past one year. The figure shows that in the last one year 196 (21.9%) students had NSSI behavior and majority of students 700 (78.1%) had no NSSI behavior.

**Table 1**

*Description of methods of NSSI behavior in frequency and percentage*

N=196

| **Behaviour** | **Frequency (f)** | **Percentage (%)** |
|---|---|---|
| **Minor behaviour** | 131 | 66.84 |
| • Hit yourself on purpose | 57 | 29.08 |
| • Pulled your hair out | 50 | 25.51 |
| • Picked at a wound | 42 | 21.43 |
| • Insert objects under your nail | 24 | 12.24 |
| • Bit yourself | 68 | 34.69 |
| • Picked areas at your body to the point of drawing blood | 20 | 10.20 |
| **Severe behaviour** | 141 | 71.94 |
| • Cut or carved on your skin | 44 | 22.45 |

| | | |
|---|---|---|
| • Burned your skin | 35 | 17.86 |
| • Scraped your skin | 29 | 14.80 |
| • Erased your skin | 27 | 13.78 |
| • Gave yourself a tattoo | 31 | 15.82 |
| **Minor and severe behaviour** | 74 | 37.76 |

Table 1 represents methods of NSSI behavior and it concludes that most of the students 141 (71.94%) were having severe behavior and 131 (66.84%) had minor behavior and few of them 74(37.76%) had both minor and severe behavior. Most common minor behavior was “bit yourself” 68 (34.69%) among 196 students.

**Table 2**

*Description of characteristics of NSSI behavior in frequency and percentage*

N= 196

| **Characteristics of NSSI behaviour** | **Frequency(f)** | **Percentage (%)** |
|---|---|---|
| Suicidal intent | 12 | 6.12 |
| Substance abuse | 6 | 3.06 |

The data presented in Table 2 shows that 12 (6.12%) students had suicidal intent and 6 (3.06%) of them abused substance when they engaged in NSSI behavior.

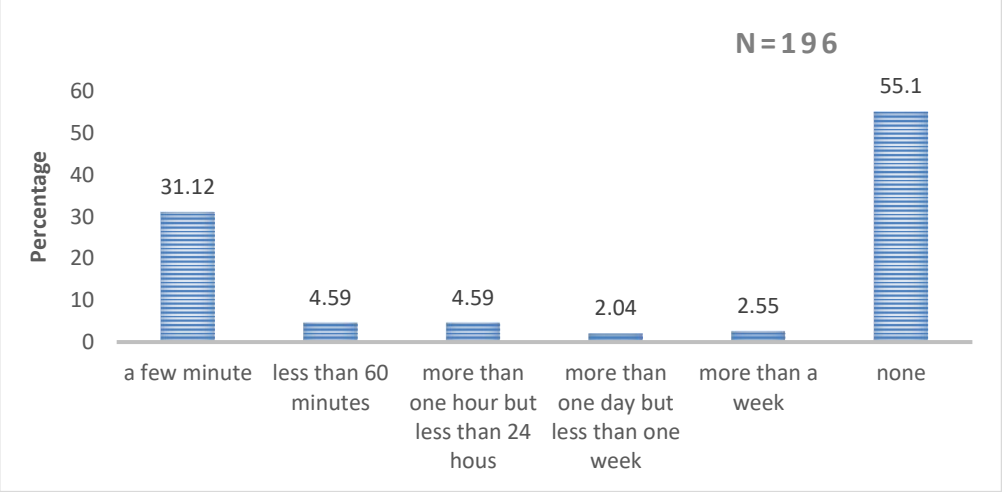


**Figure2**

*Bar diagram showing forethought about NSSI behavior of students*

The figure 2 shows that most of the students 61 (31.12%) had thought for "a few minute" and 108(55.10%) students' thought was "none" before engaging in NSSI behavior. Very few students 4(2.04%) had thought for "more than one day but less than one week" before engaging in NSSI behavior.

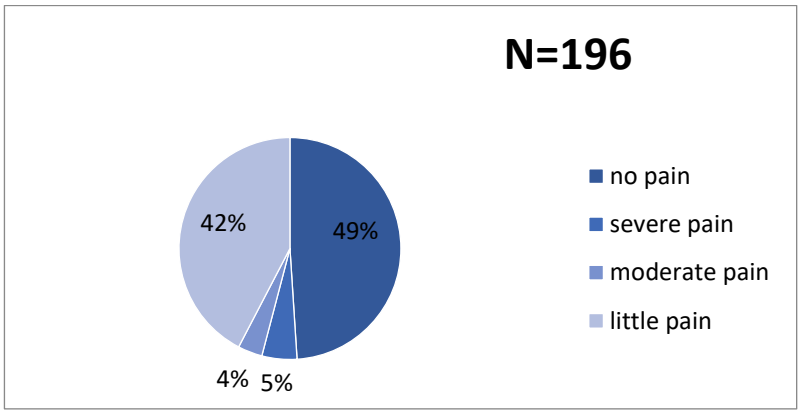


**Figure 3**

*Pie chart showing expression of pain during engaging in NSSI behavior*

Data represented in figure 3 shows that majority of the students 96 (48.98%) had expressed no pain, 83(42.35%) little pain, 10(5.10%) severe pain, 7 (3.57%) moderate pain during the act of NSSI behavior. Apart from all these data, result concluded that, students had endorsed maximum of 12 and minimum of 2 methods, with Mean value of 2.20 and Standard Deviation value of 1.73. Mean age group of onset of NSSI behavior was 16.88 years.

**Table 3**

*Description of reasons of NSSI behavior in frequency and percentage*

N=196

| Reasons | Frequency and percentage(%) of each response | | | | Total frequency | Total percentage |
|---|---|---|---|---|---|---|
| | Never | Rarely | Sometimes | Often | | |
| **1.Automatic negative reinforcement** | | | | | | |
| To stop bad feelings | 98(10.9) | 21(2.3) | 37(4.1) | 40(4.5) | 98 | 50 |
| To relieve feelings "numb" or empty | 136(15.2) | 26(2.9) | 30(3.3) | 4(0.4) | 60 | 30.61 |
| **2. Automatic positive reinforcement** | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| To punish yourself | 128(14.3) | 36(4) | 25(2.8) | 7(0.8) | 68 | 34.70 |
| To feel relaxed | 102(11.4) | 29(3.2) | 31(3.5) | 34(3.8) | 94 | 47.96 |
| To feel something, even if it were pain | 136(15.2) | 26(2.9) | 30(3.3) | 4(0.4) | 83 | 42.35 |
| **3. Social negative reinforcement** | | | | | | |
| To avoid having to do something unpleasant | 119(13.3) | 34(3.8) | 28(3.1) | 15(1.7) | 77 | 39.29 |
| To avoid college, work | 132(14.7) | 33(3.7) | 24(2.7) | 7(0.8) | 64 | 32.66 |
| To avoid punishment or paying consequences | 123(13.7) | 30(3.3) | 25(2.8) | 18(2) | 73 | 37.24 |
| To avoid being with people | 130(14.5) | 21(2.3) | 31(3.5) | 14(1.6) | 66 | 33.67 |
| **4. social positive reinforcement** | | | | | | |
| To get control of a situation | 87(9.7) | 37(4.1) | 44(4.9) | 28(3.1) | 109 | 55.61 |
| To try and get a reaction from someone, even if negative | 115(12.8) | 34(3.8) | 37(4.1) | 10(1.1) | 81 | 41.33 |
| To get your parents to understand or notice you | 111(12.4) | 25(2.8) | 38(4.2) | 22(2.5) | 85 | 43.37 |
| To make others angry | 126(14.1) | 31(3.5) | 27(3) | 12(1.3) | 70 | 35.71 |
| To give yourself something to do when alone | 125(14) | 37(4.1) | 18(2) | 16(1.8) | 71 | 36.22 |
| To give yourself something to do with others | 129(14.4) | 20(2.2) | 26(2.9) | 21(2.3) | 67 | 34.18 |
| To be like someone you respect | 100(11.2) | 25(2.8) | 33(3.7) | 38(4.2) | 96 | 48.98 |
| To receive more attention from your parents or friends | 106(11.8) | 27(3) | 40(4.5) | 23(2.6) | 90 | 45.92 |
| To get more part of a group | 125(14) | 21(2.3) | 31(3.5) | 19(2.1) | 71 | 36.22 |
| To let others know how desperate you were | 149(16.6) | 26(2.9) | 18(2) | 3(0.3) | 47 | 23.98 |
| To get attention | 110(12.3) | 39(4.4) | 34(3.8) | 13(1.5) | 86 | 43.88 |
| To get help | 111(12.4) | 24(2.7) | 35(3.9) | 26(2.9) | 85 | 43.37 |
| To get other people to act differently/ change | 123(13.7) | 30(3.3) | 31(3.5) | 12(1.3) | 73 | 37.25 |

The data presented in Table 3 shows that, 40 (4.5 %) participants had expressed most often reasons of NSSI behavior like "To stop bad feelings",

and 38(4.2%) "to be like someone you respect". The most common reasons were reported by participants were, "To get control of a situation" (55.61%), "To stop bad feeling" (50%).

**Table 4**

*Description of Emotional dysregulation of each domain in Mean and SD*

N=896

| Domain | Range of score | Maximum score | Minimum score | Mean | SD |
|---|---|---|---|---|---|
| **Non accept** | 6-30 | 33 | 6 | 15.83 | 5.04 |
| **Goals** | 5-25 | 25 | 5 | 14.04 | 3.99 |
| **Impulse** | 6-30 | 30 | 6 | 15.20 | 4.93 |
| **Awareness** | 6-30 | 30 | 6 | 19.96 | 4.09 |
| **Strategies** | 8-40 | 40 | 8 | 20.27 | 5.89 |
| **Clarity** | 5-25 | 25 | 5 | 14.94 | 3.07 |
| **Emotional dysregulation** | **36-180** | **169** | **36** | **100.32** | **19.97** |

*Note*. SD-Standard deviation

Table 4 gives information regarding each domain of emotional dysregulation. It shows that Mean of emotional dysregulation is 100.32 and SD is 19.97, where students had obtained maximum score of 169 and minimum score of 36. The Table A.5 shows that, students had obtained more score (Mean= 14.04 & SD=3.99) in goal and clarity (Mean=14.94 & SD= 3.07), followed by in strategies (Mean= 20.27, SD= 5.89), awareness (Mean=19.98 & SD=4.09), non-accept (Mean= 15.83 & SD= 5.04), impulse (Mean=15.20 & SD= 4.93), which concludes that, they had more difficulty in Goals and Clarity of emotion regulation.

**Table 5**

*Mean, standard deviation and standard error, t value and p value of emotional dysregulation and NSSI behavior*

N=896

| NSSI behaviour | N | Mean | SD | Std. Error Mean | *t* value | *p* value |
|---|---|---|---|---|---|---|
| Absent | 700 | 98.77 | 19.83 | 0.75 | 4.19 | <0.01 |
| Present | 196 | 1.05 | 19.65 | 1.40 | | |

*Note*. P-level of significance (<0.05); SD-Standard deviation

The data represented in table 5 shows that there was positive relationship between emotional dysregulation total score and student group of with NSSI behavior and without NSSI behavior (p=<0.01). Thus, it can be interpreted that the emotion regulation is depended up on NSSI behavior of students.

**Discussion:**

Present study explored that onset of injuring oneself was 16.88 years and most common self harm method was “bite yourself”, “hit yourself on purpose” and “cut or carved your skin”.

This study findings are supported by a study conducted in Italy by Martorana G, (2015). Total 362 young people (332 females and 30 males) participated and completed an online survey hosted on a website. The results concluded that the most of the participants start injuring themselves between the ages of 12 and 16 years (72.38%, n = 362). The most common self-injuring method was cutting (81.77%, n = 297).

In our study we explored that 6% of participants had suicidal intent and most often reported reason for NSSI behavior was automatic negative reinforcement (“To stop bad feelings) 40 (4.5%), automatic positive reinforcement (“to feel relaxed”) 34(3.8%) and social positive reinforcement (“to be like someone you respect”) 38(4.2%).

The result is consistent with the research study conducted by Kimberly A. Williams et.al in the year of 2016 among 10 south Korean young adults. Among them 40% had histories of suicidal thoughts, 10% reported suicide attempt, and 20% had fear of suicide. Most participants had experienced family stressors (60%) and academic/ athletic performance pressures (50%) as the underlying causes for starting NSSI behavior.

In the present study, participants were having emotional dysregulation with mean value of 100.32. Participants have difficulty in "Goals" and "Clarity" of emotion regulation with highest mean value of 14.04 and 14.94 respectively. There was significant association between NSSI behavior and emotion regulation and also there was significant association between emotional regulation and marriage union of parents.

This study finding is consistent with the research study conducted by Perez Jose, Venta Amanda, Garnaat S, (2012) among 218 adolescent inpatients, who had limited access to emotion regulation strategies subscale and which has significant role in engaging NSSI.

In 2021, a study was conducted by Amarendra Gandhi, Koen Luyckx, Alka Adhikari among 182 Indian young adults & 132 Belgian young adults to compare different features of Non-Suicidal Self-Injury (NSSI) in Western and non-Western countries**.** Lifetime prevalence of NSSI in the Indian sample was found to be around 21.4%, with higher prevalence in females than in males. Comparison of features of NSSI in India and Belgium indicated that the age of onset of NSSI was higher in the Indian sample (around 17 years) than the Belgian sample (around 15 years). Additionally, self-bruising behavior was more commonly reported in India and scratching/cutting was more often reported in Belgium. . (Amarendra Gandhi, 2021)

In the present study, Total 39.1% of students belonged to 18 years age group, majority were female. "Bite yourself" was more commonly reported behaviour

**Nursing Implications-**

**Nursing practice**

Young adult is the period where people are supposed to face new challenges of life and thus they might get overburden with many stressors. Non Suicidal self-Injury can be the maladaptive behavior in coping with these stressors, when they are not able to regulate their emotions. And also, this condition is becoming very significant now a day. The Nurse can play a major role in increasing awareness and intervention with NSSI and Emotional dysregulation. It can be done through community education, early assessment and intervention, and collaboration with other healthcare providers, with the goal to promote prevention and management of NSSI and emotion regulation strategies in young adult health care, and also decreasing the incidence of maladaptive behavior, death followed by NSSI.

**Nursing education**

Preventing emotion dysregulation and managing NSSI behavior is an important skill. The curricular design for the Nursing students leads them to understand that emotion regulation leads to preventing maladaptive behavior. As NSSI behavior is becoming very significant condition

everywhere in the society especially in new generation. Nursing students should be educated to deal with these situations. They should learn to recognize risks of NSSI behavior and emotional dysregulation pattern on patients and their families. They should also learn to recognize maladaptive coping mechanisms and get advice how to cope effectively and handle with this kind of emotion dysregulation, because they may lead to the intention of doing self-harm/NSSI. Therefore, there is a need of educating the nursing students and Nurses about NSSI behavior, and emotional regulation in health care settings.

**Nursing administrator**

The nurse administrator may work in collaboration with college teachers and guidance counselors, as well as social workers, nurses, and psychologists where everyone becomes an integral part of the educational team to help students. Students spend a large portion of their time in college which gives educators more access to students than most other professionals. The present study suggested that the Nurse administrator should recommended in organizing an intervention program aimed at promoting and reducing risk of NSSI behavior.

**Nursing research**

NSSI is different from suicidal behavior and it needs equal concern like suicide. Understanding the unique role of emotion regulation in young adult population helps in producing long term outcomes in managing NSSI behavior. Research needs to define clearly NSSI behavior and its correlates of NSSI in young adult. More studies need to be done to determine precipitants of NSSI and pattern of NSSI and the role of emotion regulation in NSSI among young adult.

**Conclusion –**

The study was conducted to assess NSSI behavior, emotional dysregulation and their association among college students in southern part of India. By the result it can be concluded that, emotion dysregulation has significant role in developing NSSI behavior. The findings of the study show the need to increase the awareness and understanding of NSSIs and to plan targeted interventions among college youth. More studies need to be done to determine precipitants of NSSI and pattern of NSSI and the role of emotion regulation in NSSI among young adult.

**Source of funding:** Nil

**Conflict of interest:** Nil

**Acknowledgements:** It is my privilege to express my gratitude to each and every one, who directly and indirectly helped me to complete my study. In conclusion, my most sincere thanks to my beloved parents,

family members and friends who have been my pillar of my strength and comfort in all my struggles and endeavors.

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