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# Prevalence and Correlates of Deliberate Self –Harming Behaviors among Nursing Students

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***Abstract:***
***Background:*** *During nursing education and training, nursing students are frequently exposed to various stressors which may directly or indirectly place them at a high risk of self-harming behaviors*
***Aim****: This study examined prevalence and correlates to deliberate self-harming behaviors among nursing students.*
***Methods****: a sample of convenience of 1272 students of different academic levels, from faculty of nursing and technical institute of nursing – Cairo University.*
***Tools****: data was collected through three tools: socio-demographic data sheet, General Health Questionnaire (GHQ) and self harm Questionnaire (SHQ).*
***Results****: Most of participants had mild self harm. Self deprivation and physical self harm were the most common forms of self harm. Meanwhile, more than one third of participants had mild or moderate psychological distress. Most common symptoms of psychological distress were social dysfunction and anxiety.*
***Conclusion****: Nursing students are exposed to attempt different forms of self harming behaviors in response to psychological distress. Furthermore, socio-demographic variables and psychological distress are correlates of self harming behaviors.*
***Key words****: Self harm, non-suicidal self-injury, self deprivation, self neglect, thinking and affective self harm, psychological distress, nursing students.*

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## I. Introduction

Deliberate self-harm (DSH) is purposeful, non-fatal ways of inflicting pain or injuries upon oneself with no intent to die. DSH is often considered part of the spectrum of suicidal behaviors, consisting of self-harm at the less intense end of the spectrum, and then including suicidal thinking and suicide attempts along the continuum of increasing severity. DSH is classified into acute/direct non-suicidal self-injury and chronic/indirect self- harming behaviors [1, 2].

Non-suicidal self-injury (NSSI) is the direct, highly visible, intentional, deliberate damage of one's body tissue as (self-cutting; burning, carving, scratching, hair pulling and head hitting) without suicidal intent in mind. NSSI excludes injury stemming from psychotic episodes, or developmental delays [3]. Although NSSI is distinct from suicide attempts, some studies indicate that 50-75% of those individuals with a history of NSSI also have made a suicide attempt [4, 5].

Indirect self- harming behavior refers to actions and situations extended over a period of time, where an individual is unaware or ignores their long-term adverse effects. It can be conceptualized as generalized tendency and behavior that is clearly damaging to the self but does not involve damage to body tissue but increase the probability of experiencing future negative consequences [6].

Indirect self- harming behavior may be close in meaning to 'Risk-Taking Thoughts and Behaviors with Remote Risk''. It includes smoking, exposure to dangerous situations, neglecting one's health and safety, yielding to temptations, impulsiveness, and seeking excitement in hazardous activities. It also includes poor health maintenance and behaviors hazardous to health, e.g. excessive eating and drinking, neglecting medical check-ups. Furthermore, neglecting one's duties and social relations, lack of future plans, helplessness and passiveness to prevent hazard are all forms of indirect self- harm. [7].

It is not uncommon for researchers to use terms such as 'health risk behaviors' or 'self-defeating behaviors' to refer to substance use, continuous engagement in abusive relationships, and engagement in reckless behaviors. This raises the question of whether behaviors that involve people mistreating or abusing themselves should also be considered as forms of self-harming behaviors. However, from its earliest beginnings, the term 'self-defeating behaviors' has been used to describe a broad spectrum of acts ranging from nail biting to purposive accidents [6].

Although understanding of the relationship between direct and indirect forms of self harm is limited, the available literature suggests that people who engage in NSSI are also likely to engage in indirect forms of self harming behaviors. For example, high rates of co-morbidity between NSSI and substance use are commonly reported, there is also a well-documented link between NSSI and eating disorders [7, 8].

Regarding its function, DSH is attempt at an unspoken communication with the outside world that things are "not okay". People turn to DSH as a coping mechanism, emotion regulator, attention and help seeking and to relieve unbearable tension. It somehow provides a sense of release from symptoms as depression and anxiety. Others may inflict NSSI for "sensation seeking" as they feel numb and emotionless, so the pain of injuries evokes some sense of feeling [9, 10]. Moreover, [11] concluded that NSSI is used to shock or harm others, self punishment, punish family members, or to bond with peers.

There are various explanatory models of self harm: affect-regulation model proposes that self-harm is a means to alleviate negative feelings and intense emotions such as anger, stress and anxiety. Self-punishment model characterizes self harm as an inward expression of anger and hostility. Antidissociation model postulates self harm is to bring of physical and/or emotional sensations to counteract feelings of numbness and emptiness [12].

University students are prone to anxiety, depression and psychological distress due to the transitional nature of college life. Nursing students in particular are subjected to many academic stressors. In this respect, a study comparing the stress levels of various professional students found that nursing students experience higher levels of stress than medical, social work and pharmacy students. However, nursing schools are now recognized as stressful environment that often exert a negative effect on the academic performances and psychological well-being of the students [13, 14].

Those stressors include pressure of educational curriculum, assignments and workload, pressure of exams and relations with academic staff. Clinical stressors as patient suffering or death, lack of knowledge and skills, handling clinical emergencies and relations with clinical staff. Moreover, stressors may be found in personal relationships, health issues, financial aspects, and with personal expectation. Thus, stressors of nursing study place youth at a high risk of self-harming behaviors [14, 15]

Studies have shown that harming the self is not a useful tactic and ultimately doesn't solve any problems. It is just a means of continuously making the person feel dejected, depressed, and ultimately isolated. The relief supplied with self injury is short-lived, the symptoms of depression that justified the use of self-injury are likely to deteriorate, and guilt associated with the act might actually be a prompt for repeated self-injury. For example, NSSI cause psychological release from emotional pain, a physical release of endorphins brings about an emotional high, which may contribute to the addictive like tendency of the acts [9, 16].

Although self-harm is recognized as a serious problem internationally, a major large-scale longitudinal study found that most adolescent self-harm resolved spontaneously with no significant adverse outcomes. While these are promising findings, the same study also identified that young people who reported repeated episodes of self-harm were more likely to self-harm into adulthood [17].

**SIGNIFICANCE**

During nursing education and training, students are frequently exposed to various stressors which present challenges that may cause them to experience physical, emotional, psychological and behavioral symptoms which might enforce students to use unhealthy coping strategies as the feeling of urge to harm themselves. Furthermore, those who repeat self-harm are prone to be at a higher risk for completed suicide. World Health organization reported that self harm is the fourth leading cause of death and the sixth leading cause of ill-health and disability among people aged15–44years.

Through better understanding of extent and nature of self-harm among nursing students, faculty members will be able to modify their language when in the classroom, preparing students and supporting them to administer care to patients. Moreover, being sensitive to the mental health needs of students, faculty members can provide caring and supportive learning environment in order to reduce the occurrence of self harming incidents among students and to help them to develop into professional nurse role which in turn will reflect on the nursing profession in Egypt.

Thus, it is significant to highlight the need to address mental health problems and self harming behaviors among college aged students in general and nursing students in particular. To the best of researchers' knowledge, there is scanty of studies that have examined deliberate self harming behaviors among nursing students in the Egyptian literature. Thus the current study will shed the light on prevalence and correlates to deliberate self –harming behaviors among nursing students.

**Aim of the Study**

The aim of this study was to examine the prevalence of and correlates of deliberate self harming behaviors among nursing students

**Research Questions**

1. What is the prevalence of deliberate self harming behaviors among studied nursing students?
2. What is the level of psychological distress among studied nursing students?
3. What are the correlates of deliberate self harming behaviors?

## II. Subjects And Methods

**Research design**

A descriptive correlational research design was utilized in the current study.

**Setting**

The study was carried out in two facilities that teach nursing at Cairo University, Egypt. A) Faculty of nursing: the undergraduate course is 141 credit hours of didactic courses and clinical training divided on eight semesters. B) Technical institute of nursing: the undergraduate course is four semesters of didactic courses and clinical training, and then students with excellent grades can join faculty of nursing. Both facilities accept students after finishing secondary school.

**Sample**

It was planned to include all the Egyptian students (1728) from all academic levels. The total number of students who completed the questionnaires were (1272) = (73.6 %) of the total number. Researchers couldn't meet (19.65%) of students due to absenteeism or different study schedules, questionnaires that were cancelled due to incomplete answers (6.75%). Non – Egyptian students were excluded to avoid language barrier as tools were in Arabic language.

**Tools:**

1. Socio- demographic data sheet: developed by researchers and included: age, gender, academic level, marital status, residence, work while studying or not, have hobbies (if yes, specify) playing sports (if yes, specify), smoking, alcohol drinking, substance use or abuse, visiting psychiatrist (if yes, mention why).
2. General Health Questionnaire (GHQ- 60 items). Was developed by Goldberg, 1979. It is a self administered test aims to detect non-psychotic symptoms among respondents. The version used consists of four subscales (somatic symptoms, anxiety / insomnia, severe depression and social dysfunction). The questionnaire was translated into Arabic language by Hassan, 1999 [18], alpha (0.9). For scoring each item: Not at all (0), No more than usual (1), Rather more than usual (2), and Much more than usual (3). Total scoring ranging from 0 to 180, the higher the total scores, the higher psychological distress. In the current study, scores were divided into three categories: No psychological distress: 0-59, moderate level of psychological distress: 60-119, and high level of psychological distress: 120-180
3. Self Harm Questionnaire (SHQ). It is an Egyptian self administered questionnaire developed by Shokair, 2006 [19]. It consists of 52 questions divided into four subscales: physical self harm (NSSI), thinking and affective self harm, self neglect and self deprivation. Response categories: 0 (never happens), 1 (rarely = once or twice / day), 2 (sometimes = 3-4 times /day) and 3 (always happens). Scoring: mild self harm (0-38), moderate self harm (39-78), high self harm (79- 118) and severe self harm (119-156). Cronbach's = 0.83

**Pilot study**

A pilot study was conducted in order to test the clarity and time needed to fill in the questionnaires. A total of 20 students were recruited from different academic levels according to the inclusion criteria. The pilot study revealed no modifications needed in the questionnaires. Subjects included in the pilot study were included in the main study sample.

**Ethical Considerations**

The purpose of the study was explained to students before distribution of the questionnaires and they were informed that participation is voluntary and the data will be used only for research purpose. To protect confidentiality of participants, a code number was written on questionnaires. Participants were informed not to write names, but to know the code of their questionnaires to be able to know the results after statistical analysis.

**Procedure**

The purpose of the study was explained to the vice dean of education and students affaires in the faculty of nursing and the director of the technical institute of nursing. Written approval was obtained. Time table was prepared with the head of each academic department to ensure the availability of students as possible. Participants were informed to answer questionnaires on basis of what they experienced during the last six weeks

only. Students needed about 25 minutes to fill in the questionnaires. Data was collected over a period of eight weeks during November and December / 2018

**Statistical Design**

Statistical analysis was done with the help of software 'SPSS 20'. Descriptive statistics including number and percentages were used for qualitative variables and mean and standard deviations were used for quantitative data. Relationship between measures of the study was computed via Pearson's correlation coefficient. ANOVA was used to analyze the differences among means. The level of significance in this study was (<0.05), and (<0.01) considered highly significant.

## III. Results And Data Analysis

Results of the current study revealed that participants' age was 18-25 years (20.38±1.55). Slightly more than half of the studied sample (59.7%) was female. Regarding academic levels, 1st level students represented (31.4%), 2nd level (27.8%), 3rd level (22.7%) and 4th academic level (18%) of the total sample.

Moreover, less than two thirds of participants (64.5%) had no hobbies and don't practice sports, two thirds (66.8%) were living with their families. More than one third (31.4 %) of participants were working, only (1.2%) were smokers, none of participants were visiting psychiatrist. Table (1)

Regarding distribution of the studied sample in relation to categories of general health questionnaire, table (2) shows that (36.5%) of participants had moderate or high level of psychological distress as their scores were (60<119). Regarding self harm questionnaire, most of participants (90.3%) had mild self harm as their scores were (0-38).

Regarding mean scores, table (3) shows that symptoms of social dysfunction and symptoms of anxiety had the highest mean scores (18.77± 10.41, 18.76±12.17) respectively. Meanwhile self deprivation had the highest mean scores of self harm followed by physical self harm (6.01 ± 4.16, 5.35 ± 3.25) respectively.

Table (4) reveals that there were positive relationship between general health and gender, residence where (p= .000, .000) respectively, and negative relationship between general health and age, academic level, practicing sports, having hobbies and working with study where (p=.011, .002, 000, 000, .001) respectively. There was negative relationship between self harm and age, academic level, sports and hobbies where (p=.001, .013, .000, .000) respectively. Moreover, there were positive relationship between general health and self harm (r=.412, p= .000).

Table (5) explains that there is a statistically significant difference in general health of participants in relation to gender, academic level, residence, practicing sports, having hobbies, working with study (p=.000, 000, .000, .002, .001 .001) respectively. Meanwhile, there is a statistically significant difference in self harm behaviors among participants in relation to gender, academic level, practicing sports, having hobbies where (p=.033, 000, .021, .006) respectively.

In respect to the most frequent forms of self harm among participants, results reveal that (17.7%) of participants prevent themselves from expressing emotions (figure 1). (Figure 2) illustrates that (17.5%) of participants tear clothes to express anger. Meanwhile, (9.6%) feels sad and depressed while others are happy (figure 3) and figure (4) reveals that (17.9%) don't care about their health.

**Table (1) socio-demographic data of participants (n=1272)**

| Item | No. | % | Item | No. | % |
|---|---|---|---|---|---|
| **Age** Mean ±SD 20.38 ±1.55 | | | | | |
| **Gender** | | | **Practicing Sports** | | |
| Male | 513 | 40.3 | yes | 452 | 35.5 |
| Female | 759 | 59.7 | no | 820 | 64.5 |
| **Residence** | | | **Have Hobbies** | | |
| With family | 850 | 66.8 | yes | 460 | 36.2 |
| Hostel | 422 | 33.2 | no | 812 | 63.8 |
| **Marriage** | | | **Working** | | |
| Yes | 10 | 0.78 | yes | 400 | 31.44 |
| No | 1262 | 99.22 | No | 872 | 68.56 |
| **Academic level** | | | **Smoking** | | |
| 1st | 400 | 31.4 | Yes | 15 | 1.2 |
| 2nd | 354 | 27.8 | No | 1257 | 98.2 |
| 3rd | 289 | 22.7 | | | |
| 4th | 229 | 18.0 | | | |

**Table (2) Distribution of categories of GHQ and SHQ among participants (n=1272)**

| **Categories of GHQ** | No | % |
|---|---|---|
| No psychological distress | 808 | 63.5 |
| Moderate level of psychological distress | 428 | 33.6 |
| High level of psychological distress | 36 | 2.9 |
| Total | 1272 | 100% |
| **Categories SHQ** | | |
| Mild self harm | 1148 | 90.3 |
| Moderate self harm | 110 | 8.6 |
| High self harm | 14 | 1.1 |
| Severe self harm | 0 | 0 |
| Total | 1272 | 100% |

**Table (3) Means and standard deviations of subscales of GHQ and SHQ**

| **Subscales** | **M ±SD** |
|---|---|
| **GHQ** | |
| Social dysfunction | 18.77 ±10.41 |
| Anxiety and insomnia | 18.76 ±12.17 |
| Somatic Symptoms | 13.42 ± 7.06 |
| Severe Depression | 8.84 ± 6.85 |
| **SHQ** | |
| Self Deprivation | 6.01 ± 4.16 |
| Physical self harm | 5.35 ± 3.25 |
| Self Neglect | 5.27 ± 3.93 |
| Thinking and affective self harm | 4.08 ± 2.20 |

**Table (4) Correlations between socio-demographic data, general health, self harm (n=1272).**

| Study Variables | Total General Health | | Total Self Harm | |
|---|---|---|---|---|
| | r | p | r | p |
| Age | -.071 | .011* | -.092 | .001** |
| Gender | .161 | .000** | -.060 | .033* |
| Academic level | -.085 | .002** | -.070 | .013* |
| Residence | .128 | .000** | .004 | .891 |
| Practicing sports | -.261 | .000** | -.440 | .000** |
| Having hobbies | -.261 | .000** | -.440 | .000** |
| Working with study | -.090 | .001** | .031 | .267 |
| Total General Health | | | .412** | .000 |

** P<0.01. * P<0.05.

**Table (5) Differences in general health and self harm in relation to socio-demographic data of participants (n=1272).**

| **Variables study Socio- demographic data** | **Total General Health** | | **Total Self Harm** | |
|---|---|---|---|---|
| | **F** | **p** | **F** | **p** |
| Gender | 33.97 | .000** | 4.54 | .033* |
| Academic level | 10.37 | .000** | 6.11 | .000** |
| Residence | 21.12 | .000** | .019 | .891 |
| Practicing sports | 9.99 | .002** | 5.33 | .021* |
| Having hobbies | 10.84 | .001** | 7.53 | .006** |
| Working with study | 10.64 | .001** | 1.28 | .257 |

**Figure (1) Most common forms of self deprivation among participants (n=1272)**

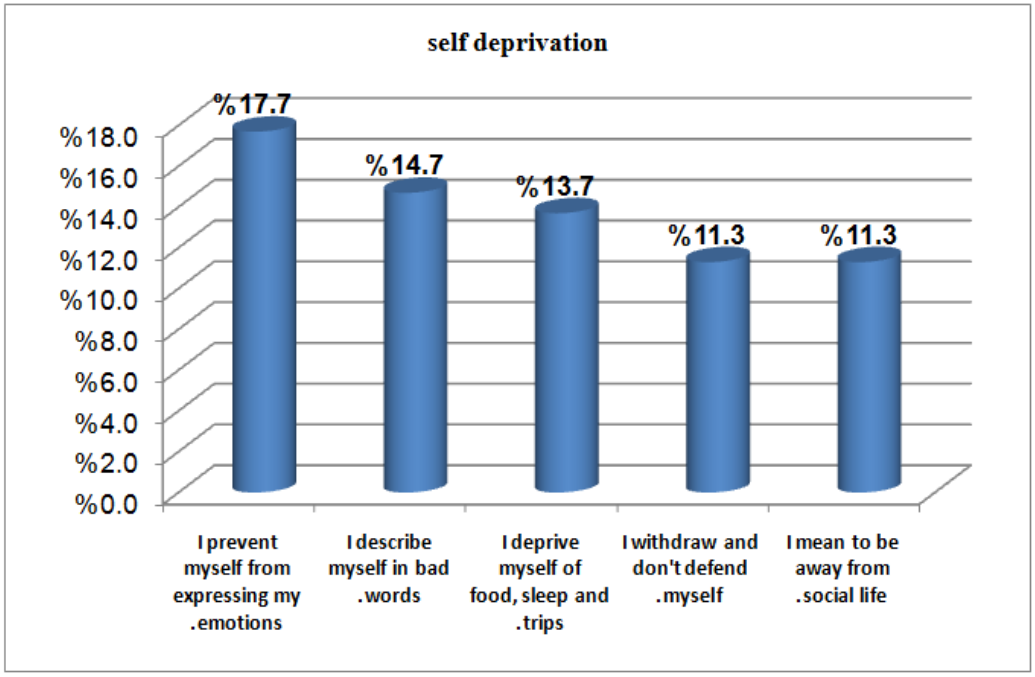



**Figure (2) Most common forms of physical self harm among participants (n=1272)**

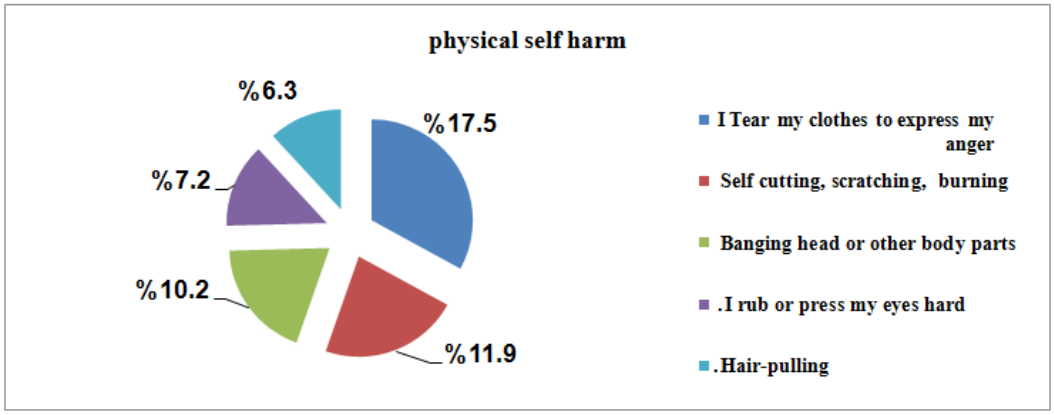



**Figure (3) Most common forms of thinking and affective self harm among participants (n=1272)**

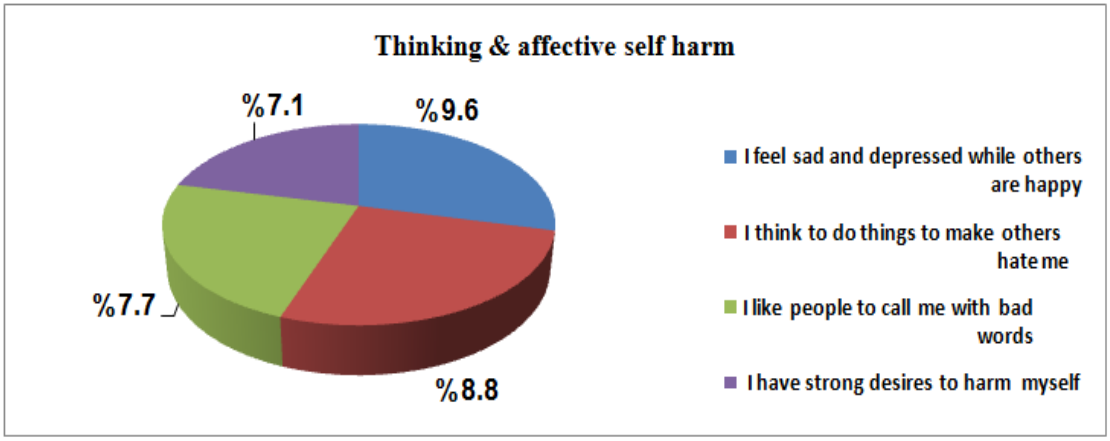
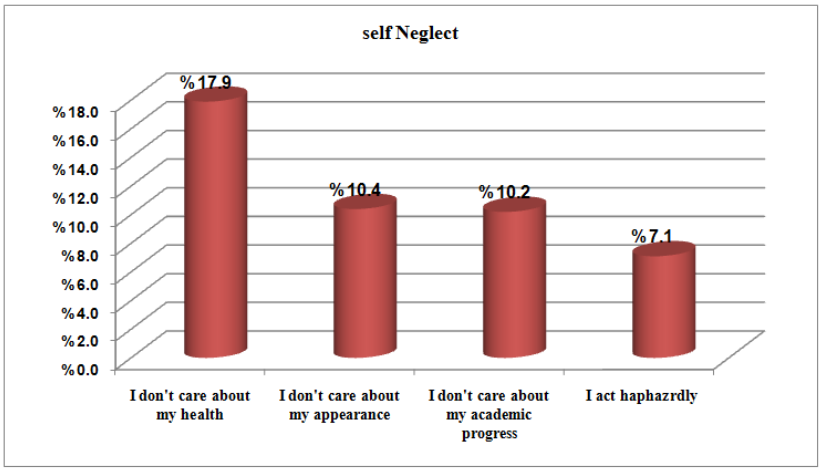


**Figure (4) Most common forms of self neglect among participants (n=1272)**




## IV. Discussion

Results of the current study revealed that age of participants was (18-25 years) with mean 20.38±1.55. Age had significant inverse relationship with general health and self harm which may indicate college aged students is prone to psychological distress and harming self due to the transitional nature of college life. This result is in the same line with Wu *et al*. [20].

Regarding gender, results of the current study revealed that slightly more than half of participants were female. Gender had significant relationship with general health and inverse relationship with self harm. In this respect, [20] concluded that gender was significantly associated with self harm. Moreover, current study showed a statistical significant difference in general health and self harm behaviors of participants in relation to gender.

This result is consistent with Hakami [21] who studied prevalence of psychological distress among undergraduate students of five colleges in Saudi Arabia and concluded that female students scored significantly higher than males on the somatization and anxiety. Furthermore, Cheung *et al.* [22] concluded that female nursing students were more likely to report anxiety, while male students were more likely to report depression. Furthermore, Hanania *et al*. [23] concluded that male adolescents reported significantly higher rates of self injury than females in Jordanian sample.

Regarding the academic level, results showed that academic level had inverse relationship with general health and self harm which might indicate that symptoms of psychological distress and tendency to harm self might decline with academic progression, as the students are able to cope up with various stressors faced during studying nursing. This finding is consistent with Taliaferro *et al.* [24]. Moreover, Uehara *et al*. [25] mentioned that first-year college students specially need to adapt to a new learning environment and cope with academic demands.

Results of the current study showed that two thirds of participants are living with family. Residence had positive significant relationship with general health. In this respect, Christoffersen *et al*. [26] concluded that college students with a strong social net work can feel cared about, loved, respected, and valued. When in trouble, they can gain support, understanding, and affirmation from family and relatives in order to avoid diminishing their self-worth and committing self harm.

Results of the current study revealed that two thirds of the participants don't practice sports and have no hobbies which are inversely correlated with general health and self harm. In this respect, Demers [27] studied self-reports of anxiety and depression symptoms before and after exercise program in university students, and concluded significant differences between pre- and post-scores. Moreover, Zhang *et al*. [28] concluded that enjoyable leisure activities are associated with lower levels of depression and negative affect. Furthermore, Lanaet *et al*. [29] concluded that sedentarism was one of nine health risk behaviors found in nursing students.

Regarding general health among participants, results of the current study revealed that slightly more than one third of participants had moderate to high level of psychological distress. This result is not an indicator that other participants are psychologically not in distress, but some students might prefer not to demonstrate suffering or fear of declaring distress in the place of study. On the one hand, this result is consistent with Lotfi *et al*., Liébana-Presa *et al*. [30, 31] who found the prevalence of psychological distress in the one third of studied nursing college students. On the other hand, this result is inconsistent with results of [21] who concluded that less than one third of college students had psychological distress.

Moreover, social dysfunction and anxiety/ insomnia had highest mean scores. Most common symptoms of social dysfunction were: inability to make decisions, not enjoying everyday activities, not playing a useful role in life, unable to feel warmth and affection and not getting on with people. This result is in the same line

with Ghezelbash[32] who concluded that nursing students suffer from fear and avoidance of social interactions and social performances. Moreover, Labrague[33] concluded that although studied students' physio-psycho-social health and wellbeing in general was good, students manifested social symptoms as difficulty in making decisions, inability to think clearly and do not feel that they are needed or valued.

In respect to anxiety and insomnia, the most common symptoms were: feeling constantly under strain, edgy and bad tempered, restless disturbed nights and lost sleep over worry. This result is supported by Amr *et al*. [34 ] who found high level of anxiety in students of Mansoura nursing college, Behilak *et al*. [35] conclude that 29% of studied nursing students in Saudi Arabia had moderate or high anxiety scores. Furthermore, [33] reported that the most common emotional symptoms among nursing students were feeling worried, nervous, anxious and feel depressed.

Moreover, [22] studied depression and anxiety among baccalaureate nursing students and concluded that prevalence of moderate to severe levels of anxiety came in more than one third of the sample. Rathnayake [36] reported significant positive relationship between depression, anxiety and stress among undergraduate nursing students in Sri Lanka.

Results of the current study showed that symptoms of severe depression had the least mean scores among participants. In this respect, Halikiopoulou [37] revealed that 44% of nursing students in northern Greece suffered from depression which varied in severity. Tung *et al*. [38] conducted meta-analysis of 27 studies and concluded that a high pooled prevalence of depression of 34.0% was reported among nursing students.

Regarding self harming behaviors, most participants in the current study had mild self harm. Moreover, self deprivation and physical self harm (NSSI) had the highest mean scores. This result is inconsistent with Abduallah [39] who studied self harm behaviors among students of Sohag University and concluded that 16% of the studied sample had self harm behaviors, thinking and affective self harm and self neglect were the most widespread forms of self harm among them.

In addition, Shokair [19] found that physical self harm was common among students with poor grades, meanwhile thinking and affective self harm was common among students with excellent grades at three different colleges in Tanta University.

Using self deprivation to harm self might indicate that participants of the current study have tendency of voluntary denial of oneself from possessing, using or enjoying something desired. Furthermore, may denote that they suppress their needs and emotions. The most common forms of self deprivation among participants were "I prevent myself from expressing my emotions"," I sit alone away from social life', and "I withdraw and do not defend myself".

In this respect , Srivastava *et al*. [40] studied the social costs of emotional suppression of the transition to college and concluded that suppression of emotion predicted lower social support, less closeness to others, and lower social satisfaction .

Moreover, Alshawashreh *et al*. [41], studied self –defeating behaviors among Jordanian college students and concluded that students had medium prevalence level of self-defeating behavior in form of: I ignore the positive treatment from others, It is not important to have a good grade in college. I am involved with unhealthy habit such as smoking and drug use. I have a negative evaluation of myself.

Next to self deprivation, results of the current study showed that physical self harm (NSSI) had mean scores of (5.35). This result is in the same line with results of [20] who concluded that nursing students and other medical-related areas had a high prevalence of NSSI.

With regard to common forms of NSSI amongst participants of the current study, results showed that: self cutting, scratching, burning, hair-pulling and banging head in the wall, were common. In this respect, results of [20], [23], Kuentzel *et al*. [42] Zullig [43] and Fedewa[44] concluded that cutting, scratching, self-hitting, burning oneself; banging head and pinching were the most common examples of NSSI in the studied college students. Tearing clothes to express anger was not reported in the reviewed studies. One possible explanation for this difference might be the tools used to assess NSSI.

Results of the current study showed positive significant relationship between psychological distress as measured by general health questionnaire and self harming behaviors. This result is supported by the affect-regulation model of self-harm mentioned by Bentley *et al*. [45]. In this respect, [10] concluded that more than three quarters of participants reported that they harmed self to get 'relief from real distress. Moreover, Midkiff *et al* [46] concluded that participants who reported more difficulty regulating emotions also tended to report higher frequency of NSSI .

## V. Conclusion

The current study concluded that nursing students are exposed to attempt different forms of self harming behaviors as self deprivation and physical self harm in response to symptoms of psychological distress as social dysfunction, anxiety and depression. Furthermore, socio-demographic variables and psychological distress are correlates of self harming behaviors.

## VI. Recommendation

1. Establishing and activating psychological support units for students at nursing colleges.
2. Qualitative study of motivation of self harm among college students.
3. Periodic assessment of mental health problems of college students
4. Establishment of intervention programs for students with mental health problems or self harming behaviors.

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