Journal of Population Therapeutics & Clinical Pharmacology

Exploring Stress Levels Among Baccalaureate Nursing Students

Noura Saeed Alghataine[1], Zidah Zidah Alkhaybari[2], Norah Hassan Al-Rashidi[3], Hajar Eid Alatawi[4], Munifaha Zaal Ali Albalawi[5], Nabeelah Sanat Alharbi[6]

1-Nursing specialty Al Khalidiya Health Center
2-Nursing specialty Al Khalidiya Health Center
3-Nursing technician Al Khalidiya Health Center
4-Specialist Nursing Khalidiya Health Center
5-Nursing technician Khalidiya Health Center
6-Nursing technician Khalidiya Health Center

Abstract:
Background: Recent studies have shed light on the levels of stress and its sources among nursing students in Western populations. However, there is a lack of similar research focusing on stress, anxiety, and depression among Arab nursing students. This study aims to investigate the perceived stress levels among baccalaureate nursing students and identify potential predictors of stress.
Methods: A cross-sectional study was conducted, collecting data from 373 nursing students through a self-administered questionnaire. The questionnaire covered sociodemographic information, a list of stressors, perceived stress levels, physical well-being factors, as well as anxiety and depressive symptoms.
Results: The study found that 40.2% of students reported high stress levels, with 46.6% experiencing anxiety and 27.9% reporting depressive symptoms. On average, each student reported 4.6 stressors, with academic pressures being the most common. Regression analysis revealed that the number of stressors and global sickness index score were significant predictors of high stress levels.
Conclusion: These findings emphasize the need for implementing stress management programs and mental health support services within the nursing health services at the university level.

Background:
Stress is widely recognized as a prevalent issue in the modern era and is understood as a complex interplay between individuals and their environments. Stressors encompass a range of situations or events that can impact health outcomes. The cognitive appraisal of stress, referring to how individuals interpret potential stressors, acts as a mediating process that can influence the health effects of stress. Individuals who perceive events as threatening and lack adaptive coping skills are more susceptible to cognitive deficits, physical illness, reduced life satisfaction, neuroticism, unhealthy behaviors, and academic challenges. (Evans & Kelly, 2004)
The Faculty of Nursing established Clinical practicum experiences are integral to the program, where students rotate through various clinical specialties in university hospitals and medical centers to enhance their clinical skills, problem-solving abilities, and professional attitudes. While studies in Western populations have extensively documented stress levels and stressors among nursing students, research on clinical stress, anxiety, and depression among the Arab population, remains limited. There is a gap in understanding the perception of stress among baccalaureate nursing students, prompting the need for this study. (Cassidy, 2000)

This study aims to address the following research questions:
1) What is the perceived level of stress among baccalaureate nursing students?
2) What types of stressors are commonly experienced by these students?
3) What is the prevalence of anxiety and depression among them?
4) What factors are associated with the frequency of stress experienced by baccalaureate nursing students?

Methods:
This study employed a cross-sectional descriptive design and was conducted among nursing students
After conducting a literature review, a specially designed questionnaire in English was used for data collection. The questionnaire underwent pilot testing with a sample of 40 students (10 from each educational year) over a one-week period, which was not included in the main study. Following the pilot study, the questionnaire was modified based on feedback, including rephrasing questions and adding explanatory notes. The questionnaire was approved by the college authority as there was no formal research ethics committee.
The sample size was determined using EpiInfo® version 6.02 software. The total number of registered nursing students (all females) in the four years was 1627. Based on the pilot study's findings that approximately 35% of students suffered severe stress, a sample size of at least 350 students was estimated at a 95% confidence level with an acceptable worst-case level of 32%. Students were selected using systematic sampling from each academic year, with every 4th student chosen from a master list of students' academic numbers. A total of 402 questionnaires were distributed, and 373 were analyzed after excluding incomplete or missed data, resulting in a response rate of 92.8%.
Data collection involved participants completing an anonymous self-administered questionnaire two months before examinations to minimize direct stressful effects. The questionnaire covered socio-demographic factors, previous year's grades, stressors experienced in the past twelve months, Perceived Stress Scale (PSS), physical well-being factors, Hospital Anxiety and Depression Scale (HAD), and neuroticism and extraversion subscales of the Eysenck Personality Questionnaire.
Data analysis was performed using SPSS version 11. Unpaired t-tests and chi-squared tests were used for quantitative and categorical data analysis, respectively. Odds ratios and 95% confidence intervals were calculated, and significant factors predicting stress were further analyzed using multivariate logistic regression analysis with a significance level set at $p < 0.05$.

Results:
The study comprised 273 Baccalaureate Nursing Students, with ages ranging from 17 to 22 years and a mean age of 18.8±1.2 years. Of the sample, 68% hailed from rural areas. The majority reported satisfactory family income (78.2%) and came from families with more than 5 members (55.7%). The education level of respondents' fathers and mothers was primarily secondary and above (77.5% and 75.9%, respectively), with a significant portion of fathers working as professionals (63.8%) and mothers being housewives (59.2%).
In terms of stress levels, 59.8% experienced mild to moderate stress (low stress), while 40.2% reported severe stress (high stress). Clinical anxiety was prevalent in nearly half of the sample (46.6%), and 27.9% reported experiencing depression.
Stressors were reported by 97.3% of students, with the number of stressors per student ranging from 0 to 13 and a mean of 4.6±2.5. The most frequently reported stressors included fear of the future, self-reported anxiety and depression, increased class workload, accommodation problems, and congested classrooms.
The Perceived Stress Scale (PSS) showed an overall mean score of 28.6±6.7, with distinct scores for the low stress group (27±4.9) and high stress group (38 ±4.6).
Significant differences were observed in sociodemographic factors between the high and low stress groups, including family residence, father's education and occupation, and the grade of the previous year.
Multivariate logistic regression analysis revealed that the number of stressors and the Global Sickness Index score (GSI) were independent predictors of high stress levels ($p=0.000$ and $p=0.04$, respectively).

Discussion:

Our study revealed a high prevalence of stress among nursing students, with 40.2% reporting high stress levels. This rate is notably higher than what has been reported in other studies conducted in both developed and developing countries using different distress measures. For instance, Papazisis et al. reported that 71.8% of nursing students in Greece perceived stress, albeit mostly at mild levels (31.8%), while Pryjmachuk and Richards found that around one-third of pre-registration nursing students in the UK exhibited General Health Questionnaire caseness. Arafa et al. revealed that 21.67% of nurses experienced moderate to severe psychological distress on the General Health Questionnaire (GHQ-30 items). The higher prevalence of stress in our study sample may be attributed to several factors. (Dyson & Renk, 2006)

Firstly, the education policy has led to an increasing number of college admissions, potentially compromising the quality and performance of higher education. This traditional approach often emphasizes passive learning, which does not adequately develop critical thinking and problem-solving skills essential for clinical training.

Secondly, the diversity in nursing education , with graduates from colleges, technical institutes, and nursing schools (diploma nurses), may contribute to role ambiguity and hierarchy issues within the nursing profession, affecting students' stress levels. (Pritchard et al., 2007)

Thirdly, concerns about future financial stability, low salaries, and the challenging working environment for nurses are likely stressors affecting students' mental well-being. (Schneider, 2004)

Fourthly, societal changes, such as evolving marriage patterns and increasing age at marriage, may also influence stress levels among nursing students, particularly regarding future career prospects and family expectations. (Oermann & Lukomski, 2001)

Lastly, the perception of nursing as a profession may contribute to stress, with nurses often facing blame and being treated as scapegoats within the medical profession. (Kim, 2003)

The stressors identified by students, including anxiety and depression, academic workload, financial and relationship challenges, are consistent with previous research findings among similar student populations. However, unique stressors such as concerns about the future, accommodation issues, and crowded classrooms highlight specific challenges faced by nursing students in this setting. (Pryjmachuk & Richards, 2007)

Logistic regression analysis indicated that the number of stressors and the global sickness index were significant predictors of high stress levels, aligning with previous studies that have explored the relationship between perceived stress, psychosomatic activity, and mood disturbances among college students. (Papazisis et al., 2008)

Despite the valuable insights gained from this study, some limitations should be considered. The reliance on self-reported data introduces the potential for reporting bias, and the cross-sectional design limits the ability to generalize findings over time. Additionally, the study was conducted at a single college, which may impact the generalizability of results to other institutions. (Halabi & Suliman, 2007)

Conclusion:

The study underscores the significant stressors faced by nurses, encompassing academic, personal, and environmental challenges. Academic pressures, alongside their impact on social life and financial stability, emerge as crucial areas requiring intervention. Strategies to alleviate stress should prioritize small class sizes, active learning methods, adequate practical resources, and improved accommodation facilities.

Given the adverse effects of stress on both health and academic performance, it is imperative for college administrators to integrate stress management training into nursing students' orientation activities. Additional measures such as stress management workshops, assertiveness training, time management strategies, and counseling sessions may prove effective in mitigating stress among nursing students.

Further research is warranted, particularly at a multi-center level, to delve into more comprehensive sociodemographic, psychosocial, and institutional factors. These studies can confirm the present findings and provide insights into tailored interventions to address stress among nursing students effectively.

References

1. Evans, W., & Kelly, B. (2004). Pre-registration diploma student nurse stress and coping measures. Nurse Education Today, 24(6), 473-482.
2. Barling, J. (1990). Employment, stress, and family functioning. New York: John Wiley & Sons.
3. Cassidy, T. (2000). Stress, healthiness, and health behaviors: An exploration of the role of life events, daily hassles, cognitive appraisal, and the coping process. Counseling Psychology Quarterly, 13(4), 293-311.
4. Bailey, R. C., & Miller, C. (1998). Life satisfaction and life demands in college students. Social Behavior and Personality, 26(1), 51-56.
5. Dyson, R., & Renk, K. (2006). Freshmen adaptation to university life: Depressive symptoms, stress, and coping. Journal of Clinical Psychology, 62(10), 1231-1244.
6. Edwards, K. J., Hershberger, P. J., Russell, R. K., & Market, R. J. (2001). Stress, negative social exchange, and health symptoms in university students. Journal of American College Health, 50(2), 75-79.
7. Pritchard, M. E., Wilson, G. S., & Yamnitz, B. (2007). What predicts adjustment among college students? A longitudinal panel study. Journal of American College Health, 56(1), 15-21.
8. Schneider, T. (2004). The role of neuroticism in psychological and physiological stress responses. Journal of Experimental Social Psychology, 40(6), 679-804.
9. Struthers, C. W., Perry, R. P., & Menec, V. H. (2000). An examination of the relationship among academic stress, coping, motivation, and performance in college. Research in Higher Education, 41(5), 581-592.
10. Supreme Council of Universities, Egypt. Retrieved from http://www.scu.eun.eg/wps/portal
11. Oermann, M. H., & Lukomski, A. P. (2001). Experiences of students in pediatric nursing clinical courses. Journal of Social Pediatric Nursing, 6(2), 65-72.
12. Kim, K. H. (2003). Baccalaureate nursing students' experiences of anxiety-producing situations in the clinical setting. Contemporary Nurse, 14(2), 145-155.
13. Pryjmachuk, S., & Richards, D. A. (2007). Predicting stress in pre-registration nursing students. British Journal of Health Psychology, 12(Pt 1), 125-144.
14. Papazisis, G., et al. (2008). Depression and anxiety among nursing students in Greece. Annals of General Psychiatry, 7(Suppl 1), S209.
15. Halabi, J., & Suliman, W. A. (2007). Researchers look at critical thinking, self-esteem, and anxiety in nursing students. Nurse Education Today, 27(2), 162-168.
16. Al-Hussain, S. M., et al. (2008). Prevalence of mistreatment and justice of grading system in five health-related faculties in Jordan University of Science and Technology. Medical Teacher, 30(3), e82-e86.
17. Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. Journal of Health and Social Behavior, 24(4), 385-396.
18. Jaber, L. A., Brown, M. B., Hammad, A., Zhu, Q., & Herman, W. H. (2003). Lack of acculturation as a risk factor for diabetes in Arab immigrants in the U.S. Diabetes Care, 26(7), 2010-2014.
19. Hojat, M., Gonnella, J. S., Erdmann, J. B., & Vogel, W. H. (2003). Medical students' cognitive appraisal of stressful life events as related to personality, physical well-being, and academic performance: A longitudinal study. Personality and Individual Differences, 35(1), 219-235.
20. Zigmond, S., & Snaith, R. P. (1983). The hospital anxiety and depression scale (HADS). Acta Psychiatrica Scandinavica, 67(6), 361-370.
21. Olsson, I., Mykletun, A., & Dahl, A. A. (2005). The Hospital Anxiety and Depression Rating Scale: A cross-sectional study of psychometrics and case-finding abilities in general practice. BioMed Central Psychiatry, 5, 46. Retrieved from PubMed.
22. EL-Rufaie, O. E., & Absood, G. H. (1995). Retesting the validity of the Arabic version of the Hospital Anxiety and Depression (HAD) scale in primary health care. Social Psychiatry and Psychiatric Epidemiology, 30, 26-31. Retrieved from PubMed.

23. Arafa, M. A., Abou Nazel, M. W., Ibrahim, N. K., & Attia, A. (2003). Predictors of psychological well-being of nurses in Alexandria, Egypt. International Journal of Nursing Practice, 9(5), 313-320. Retrieved from PubMed.
24. Moustafa, A. F. (2004). The axes of the future dimension of the development of university education in Egypt to face the unemployment of graduates. Journal of Financial and Commercial Studies, 2, 213-220.
25. World Health Organization. (2006). The global shortage of health workers and its impact Fact Sheet No 302. Retrieved from http://www.who.int/mediacentre/factsheets/fs302/en/index.html.
26. Rashdan, T. (2007). Implications for Advancement of Egyptian Nursing: Input equals Output. White Paper for Fulbright Academy Workshop in Doha, March 23-25, 2007.
27. El-Noshokaty, A. (2004). The job of mercy. Al-Ahram Weekly. Retrieved from http://weekly.ahra.org/eg/print/2004/690/fe2.htm.
28. Rashad, H., Osman, M., & Rouda-Fahimi, F. (2005). Marriage in the Arab world. Population Reference Bureau. Retrieved from http://www.prb.org.
29. Elzanty, F., & Way, A. (2003). Egypt Interim and Demographic Health Survey 2003 (Cairo: Ministry of Health, 2004).
30. Morrison, J., & Moffat, K. (2001). More on medical student stress. Medical Education, 35, 617-618. Retrieved from PubMed.
31. Honkalampi, K., Koivumaa-Honkanen, H., Hintikka, J., Antikainen, R., Haatainen, K., Tanskanen, A., & Viinamäki, H. (2004). Do stressful life events or sociodemographic variables associate with depression and alexithymia among a general population? A 3-year follow-up study. Comprehensive Psychiatry, 45(4), 254-260. Retrieved from PubMed.
32. Gabr, H., & Mohamed, N. (2010). Effects of problem-based learning on undergraduate nursing students enrolled in nursing administration course. International Journal of Academic Research, 3(1), 154-164.
33. Dyrbye, L. N., Thomas, M. R., & Shanafelt, T. D. (2006). Systematic review of depression, anxiety, and other indicators of psychological distress among U.S. and Canadian Medical students. Academic Medicine, 81(4), 354-373. Retrieved from PubMed.
34. Okasha, A., Kamel, M., Sadek, A., & Lotaif, Z. B. (1977). Psychiatric morbidity among university students in Egypt. British Journal of Psychiatry, 131, 149-154. Retrieved from PubMed.
35. Liu, X. C., Oda, S., Peng, X., & Asai, K. (1997). Life events and anxiety in Chinese medical students. Social Psychiatry and Psychiatric Epidemiology, 32(2), 63-67. Retrieved from PubMed.
36. Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan & S. Oskamp (Eds.), The social psychology of health (pp. 31-67). Newbury Park, CA: Sage.