

Understanding Generation Z in Nursing Education: A Review of Learning Styles, Challenges, and Opportunities

Syed Sumiya¹, Dr. Shubhada Nikhil Kale², Dr. Rekharani Anil Singh³, Akhila S Nair⁴, Dr. Sheba Elizabeth Abraham⁵, Jomon Thomas⁶, Kanika⁷, Farzana Begum⁸

¹Professor, Rama college of Nursing, Rama University, Kanpur, Uttar Pradesh, India

²Professor cum Principal, Tehmi Grant Institute of Nursing Education, Pune, Maharashtra, India

³Principal, VSPM College of Nursing, Katol, Nagpur, Maharashtra, India

⁵Professor, Vasantrao Naik Institute of Nursing, Jalna, Maharashtra, India

⁴Asst. Professor, Jyoti College of Management Science and Technology, Bareilly, Uttar Pradesh, India

⁶Principal, Anushree College of Nursing, Jabalpur, Madhya Pradesh, India

⁷Associate Professor, Yamuna College of Nursing, Mansurpur, Haryana, India

⁸Associate Professor, SUM Nursing College, SOA University, Phulnakhra, Bhubaneswar, Odisha, India

Corresponding Author Name: Syed Sumiya, Email: sumiyashaik01@gmail.com

ABSTRACT

Generation Z, born between the mid-1990s and early 2010s, is now entering nursing education with unique characteristics shaped by technology and globalization. Understanding their learning styles and challenges is crucial for optimizing teaching strategies in nursing institutions. This review aims to explore the learning styles, challenges, and opportunities associated with Generation Z nursing students, highlighting implications for nursing education. A narrative review methodology was employed, sourcing peer-reviewed articles published between 2015 and 2024 from databases such as PubMed, CINAHL, Scopus, and Google Scholar. A total of 38 relevant studies were analyzed, focusing on pedagogical preferences, barriers to engagement, and innovative educational practices tailored for this cohort. The findings suggest that Generation Z students prefer interactive, technology-enhanced, and visually engaging learning methods, often gravitating towards active learning, simulation, and digital platforms. While they demo.

Keywords: Generation Z, nursing education, learning styles, challenges, opportunities, pedagogy

How to Cite: Syed Sumiya, Shubhada Nikhil Kale, Rekharani Anil Singh, Akhila S Nair, Sheba Elizabeth Abraham, Jomon Thoma6, Kanika, Farzana Begum., (2025) Understanding Generation Z in Nursing Education: A Review of Learning Styles, Challenges, and Opportunities, *Journal of Carcinogenesis*, Vol.24, No.6s, 395-402.

1. INTRODUCTION

The landscape of nursing education is continuously evolving, shaped by advancements in technology, changing healthcare demands, and generational shifts among students. One of the most significant generational cohorts currently entering nursing programs is Generation Z, typically defined as individuals born between the mid-1990s and early 2010s. As digital natives who have grown up in a world of pervasive technology, globalization, and rapid access to information, Generation Z students bring unique perspectives, expectations, and learning preferences to higher education, particularly in the nursing discipline (Seemiller & Grace, 2016). Understanding the characteristics, learning styles, and challenges of this generation is essential for educators seeking to develop effective teaching strategies that enhance engagement, knowledge acquisition, and clinical competency.

Generation Z is distinct from preceding generations in several ways. Compared to Millennials (Generation Y), who are known for their collaborative and team-oriented approach, Generation Z tends to be more pragmatic, independent, and highly proficient in digital technologies. They are accustomed to receiving information quickly, multitasking across multiple digital platforms, and engaging with interactive media from an early age. This has profound implications for

nursing education, where traditional lecture-based teaching may no longer meet their learning needs or preferences (Turner, 2015). Generation Z students often value experiential learning, real-time feedback, visual and interactive content, and flexible educational modalities that incorporate digital tools. The widespread use of smartphones, tablets, and online resources has also shaped their expectations for self-directed learning, instant access to information, and seamless integration of technology into academic and clinical experiences.

However, alongside their strengths, Generation Z nursing students face specific challenges that educators must address. Studies indicate that while they are technologically adept, they may exhibit shorter attention spans, a preference for immediate gratification, and potential difficulties with critical thinking and face-to-face communication (Schroth, 2019). Furthermore, the mental health and well-being of Generation Z students have emerged as critical concerns, with higher rates of stress, anxiety, and burnout reported in comparison to earlier generations. In the demanding context of nursing education, which combines rigorous theoretical knowledge with practical clinical skill development, these challenges can affect academic performance, engagement, and professional readiness. Therefore, identifying the learning styles, barriers, and opportunities unique to this cohort is crucial for creating inclusive and effective educational strategies.

The pedagogical implications of these generational differences are substantial. Nursing educators are increasingly required to adopt innovative teaching methods such as simulation-based learning, flipped classrooms, gamification, blended learning, and competency-based curricula to engage Generation Z students effectively. Incorporating technology-enhanced learning tools, interactive modules, and collaborative online platforms not only aligns with their learning preferences but also prepares students for technologically advanced healthcare environments. Moreover, faculty development programs focusing on digital pedagogy, mentorship, and strategies to foster critical thinking, resilience, and professional communication skills are essential to bridge the gap between student expectations and educational objectives.

Several studies have explored generational characteristics in higher education, yet literature specifically addressing Generation Z in nursing education remains limited. Existing research highlights trends in learning preferences, technological engagement, and psychosocial challenges but calls for more comprehensive reviews that synthesize findings to guide curriculum design and pedagogical practices (Smith & Nichols, 2015; Twenge, 2017). By examining the learning styles, challenges, and opportunities of Generation Z nursing students, educators can develop evidence-based strategies to enhance academic performance, clinical competence, and overall student satisfaction. Such insights are also valuable in preparing future nurses who are adaptable, resilient, and capable of providing high-quality patient care in rapidly evolving healthcare environments.

The rationale for this review is further strengthened by the ongoing transformation of nursing education. The integration of digital technology, simulation laboratories, online learning platforms, and competency-based assessments has created new opportunities to engage Generation Z students effectively. By understanding their unique learning preferences and potential challenges, nursing educators can optimize instructional methods, foster active learning, and support professional development. Additionally, insights from this review can inform institutional policies, faculty training, and curriculum design, ensuring that nursing programs remain relevant, evidence-based, and aligned with the needs of contemporary learners.

In summary, the influx of Generation Z students into nursing programs presents both opportunities and challenges for educators. While their technological proficiency, adaptability, and desire for interactive learning can enhance educational outcomes, addressing potential barriers such as limited attention span, dependency on digital tools, and psychosocial stressors is essential. This review seeks to provide a comprehensive understanding of the learning styles, challenges, and opportunities associated with Generation Z nursing students, offering practical guidance for curriculum innovation, faculty development, and evidence-based teaching strategies. By aligning educational practices with the characteristics and needs of this generation, nursing educators can foster a supportive, engaging, and effective learning environment that prepares students for successful careers in the healthcare sector.

2. OBJECTIVES

The primary objective of this review is to comprehensively explore the learning styles, challenges, and opportunities associated with Generation Z students in nursing education. Specifically, the review aims to identify the unique characteristics, preferences, and expectations of Generation Z learners, which differentiate them from previous generations and influence their engagement and performance in nursing programs. Understanding these characteristics is essential for developing effective, student-centered teaching strategies that optimize learning outcomes and professional competence. The secondary objectives include examining the challenges faced by Generation Z nursing students in academic and clinical settings, such as potential limitations in critical thinking, communication skills, and resilience, as well as the psychosocial stressors impacting their well-being. Additionally, this review seeks to highlight innovative pedagogical approaches and educational interventions—such as simulation-based learning, blended learning, gamification, and technology-enhanced

strategies—that align with Generation Z learning preferences.

Another objective is to provide evidence-based recommendations for nursing educators and institutions to adapt curricula, teaching methods, and faculty development programs that foster engagement, critical thinking, and clinical competence. Ultimately, the review aims to bridge the gap between generational learning needs and educational practices, enabling nursing programs to prepare Generation Z students for effective, safe, and competent practice in contemporary healthcare environments.

3. METHODOLOGY

This study employed a narrative review approach to explore the learning styles, challenges, and opportunities of Generation Z students in nursing education. A narrative review was chosen to provide a comprehensive synthesis of existing literature, identify key themes, and highlight trends and gaps in knowledge regarding this generational cohort. The review focused on studies published between 2015 and 2024, a period that captures the emergence and rapid growth of Generation Z in higher education settings.

A systematic search was conducted across multiple electronic databases, including PubMed, CINAHL, Scopus, Google Scholar, and Web of Science. Keywords and Boolean operators were used to refine the search and ensure relevant literature was captured. Key search terms included: “Generation Z,” “nursing education,” “learning styles,” “challenges,” “opportunities,” “digital natives,” “pedagogy,” and “student engagement.” Inclusion criteria encompassed peer-reviewed articles, original research studies, review articles, and educational reports published in English that specifically addressed Generation Z learners in nursing or related healthcare education. Exclusion criteria included studies focusing on other generational cohorts, non-nursing populations, or articles lacking full-text availability.

After initial screening of titles and abstracts, full-text articles were reviewed for eligibility. A total of 38 studies met the inclusion criteria and were included in the analysis. Data extraction focused on key elements such as study design, sample characteristics, reported learning preferences, challenges, pedagogical interventions, and outcomes related to student engagement, academic performance, and skill development.

The extracted data were analyzed using a thematic approach. Common themes regarding learning preferences, technological engagement, barriers to learning, psychosocial challenges, and innovative educational strategies were identified and synthesized. The narrative synthesis aimed to highlight patterns across studies, draw comparisons, and provide practical insights for nursing educators and institutions.

Ethical approval was not required for this review as it involved secondary analysis of published literature. The review adhered to academic standards for literature synthesis, ensuring comprehensive coverage, critical appraisal, and accurate reporting of findings.

By systematically analyzing contemporary literature, this methodology provides a structured understanding of how Generation Z nursing students learn, the challenges they face, and the opportunities available for educators to enhance teaching and learning in nursing programs.

4. RESULTS

The review of 38 relevant studies provided comprehensive insights into the learning styles, challenges, and opportunities associated with Generation Z students in nursing education. The findings were organized into three main themes: learning preferences and styles, challenges in academic and clinical settings, and opportunities for effective pedagogical strategies.

1. Learning Preferences and Styles: Generation Z students exhibit distinct learning characteristics shaped by their exposure to digital technologies and instant access to information from a young age. Studies consistently reported that these students prefer interactive, engaging, and technology-enhanced learning environments. Active learning methods, such as group discussions, case-based learning, and simulation exercises, were found to be particularly effective in maintaining engagement and facilitating critical thinking. Visual and multimedia content, including videos, animations, and infographics, was preferred over traditional text-heavy lectures. Furthermore, Generation Z learners demonstrated a strong inclination toward self-directed learning, leveraging online resources, educational apps, and virtual platforms to supplement their knowledge. Collaborative learning, through peer-to-peer interactions and team-based projects, was also highlighted as an important factor that enhances engagement and knowledge retention.

2. Challenges Faced by Generation Z Nursing Students: Despite their technological proficiency, Generation Z students face several challenges in both academic and clinical settings. Short attention spans and a preference for immediate

feedback were commonly reported, potentially affecting sustained engagement in longer lectures or traditional instructional methods. Dependency on digital devices sometimes hindered critical thinking, problem-solving, and independent learning in clinical scenarios. Communication skills and face-to-face interactions were identified as areas requiring development, particularly in patient-centered care contexts. Additionally, psychosocial challenges such as stress, anxiety, and burnout were prevalent among this cohort, exacerbated by academic pressures and the demanding nature of nursing programs. Some studies also reported a gap between students' expectations for technology integration and the reality of available resources in nursing curricula.

3. Opportunities and Effective Pedagogical Strategies: The reviewed studies highlighted several opportunities to optimize learning for Generation Z students. Integrating blended learning approaches, combining online digital modules with hands-on clinical practice, was found to enhance flexibility and engagement. Simulation-based learning, including virtual reality scenarios and clinical skill labs, was particularly effective in bridging theory and practice. Gamification, flipped classrooms, and interactive assessment tools were recommended to increase motivation, participation, and knowledge retention. Faculty development emerged as a crucial component, ensuring educators are equipped with digital pedagogy skills and strategies for fostering critical thinking, collaboration, and resilience. Furthermore, student-centered approaches, personalized learning pathways, and mentorship programs were identified as effective mechanisms to address psychosocial challenges and support holistic development.

Overall, the results underscore that while Generation Z nursing students bring unique strengths such as digital fluency, adaptability, and collaborative learning they also present challenges that necessitate thoughtful curriculum design, technological integration, and targeted faculty support. By understanding their learning preferences and addressing barriers proactively, nursing educators can enhance both academic outcomes and clinical competence, preparing students for successful professional practice.

5. DISCUSSION

The findings of this review provide a nuanced understanding of Generation Z nursing students, highlighting both their strengths and challenges, and offering insights into effective pedagogical strategies. This discussion interprets the results in the context of existing literature, emphasizing implications for nursing education, curriculum design, and faculty development.

Learning Preferences and Educational Implications Generation Z students are often described as digital natives, exhibiting strong familiarity with technology, social media, and online learning platforms (Seemiller & Grace, 2016). This review confirms that they prefer active, interactive, and visually engaging learning methods over traditional lecture-based approaches. Interactive learning strategies such as simulation exercises, case-based discussions, group projects, and multimedia presentations were reported to enhance engagement, knowledge retention, and clinical reasoning. These findings align with previous research emphasizing that Generation Z students thrive in environments that encourage participation, collaboration, and immediate feedback (Turner, 2015; Smith & Nichols, 2015).

The preference for self-directed learning and online resources suggests that nursing curricula must incorporate flexible and technology-enhanced modules. Blended learning models that combine online content with face-to-face practical sessions can cater to diverse learning styles and improve accessibility. Gamification and flipped classroom approaches not only make learning more engaging but also help develop critical thinking and problem-solving skills, which are essential in nursing practice. Therefore, integrating these pedagogical innovations into nursing education is crucial to meet the evolving needs of this cohort.

Challenges in Academic and Clinical Settings Despite their strengths, Generation Z nursing students face unique challenges. Short attention spans, dependence on digital devices, and a preference for immediate gratification were reported across multiple studies. These traits can limit sustained engagement in extended lectures or complex clinical problem-solving scenarios. Furthermore, deficiencies in face-to-face communication and interpersonal skills pose challenges in patient-centered care, teamwork, and professional interactions (Schroth, 2019). Nursing educators must recognize these limitations and design interventions to strengthen soft skills, including communication, empathy, and emotional intelligence.

Psychosocial stressors are another significant concern. Higher rates of anxiety, stress, and burnout among Generation Z students were reported, likely influenced by academic pressures, the competitive nature of nursing programs, and the challenges of balancing online and offline learning environments. Mental health support systems, peer mentorship programs, and resilience-building workshops can help mitigate these challenges and enhance overall student well-being. Addressing these psychosocial factors is critical not only for academic success but also for preparing competent and resilient future nurses.

Opportunities for Pedagogical Innovation The review highlights several opportunities to optimize nursing education for Generation Z learners. Simulation-based learning, virtual reality, and interactive clinical scenarios allow students to practice skills in a safe, controlled environment, bridging the gap between theory and practice. Flipped classrooms and gamified learning encourage active participation and engagement, fostering higher-order thinking skills. Faculty development programs are equally essential, ensuring educators are proficient in digital pedagogy, student-centered teaching, and mentorship strategies. Educators who can adapt their teaching style to Generation Z preferences are more likely to enhance student engagement, clinical competence, and professional readiness.

Institutional support also plays a key role in leveraging these opportunities. Adequate technological infrastructure, access to online learning resources, and policies supporting blended and flexible learning models are essential to maximize the potential of Generation Z students. Curricular adaptations that integrate technology, interactive learning, and competency-based assessments can prepare students for contemporary healthcare environments, where digital literacy, adaptability, and collaboration are critical skills.

Integration with Existing Literature The findings of this review are consistent with prior studies indicating that Generation Z nursing students are technologically adept, collaborative, and preference-driven learners. However, the review also underscores the importance of addressing gaps in communication skills, critical thinking, and resilience, echoing recommendations from earlier research (Twenge, 2017; Seemiller & Grace, 2016). By synthesizing these insights, nursing educators and policymakers can design evidence-based interventions that enhance learning outcomes and professional competence.

Overall, Generation Z nursing students present both opportunities and challenges for nursing education. Understanding their learning preferences, technological strengths, and psychosocial vulnerabilities is essential for developing effective teaching strategies. Nursing educators who embrace innovative pedagogical approaches, provide targeted support, and foster a student-centered learning environment can enhance engagement, clinical skills, and academic success. This discussion emphasizes that proactive curriculum design, faculty development, and institutional support are critical to preparing Generation Z students for the dynamic and demanding healthcare sector.

6. RECOMMENDATIONS

Based on the findings of this review, several recommendations are proposed to optimize nursing education for Generation Z students, addressing their unique learning preferences, challenges, and opportunities. These recommendations are intended for nursing educators, curriculum developers, and institutional policymakers to enhance student engagement, learning outcomes, and professional competence.

1. Integrate Technology-Enhanced Learning Generation Z students are digital natives who respond positively to technology-driven teaching methods. Nursing programs should incorporate blended learning models, including online modules, virtual simulations, and interactive multimedia content. The use of gamification, flipped classrooms, and mobile learning applications can increase student engagement, motivation, and knowledge retention. Ensuring access to high-quality digital resources and maintaining updated learning management systems is crucial for meeting the expectations of this cohort.

2. Promote Active and Experiential Learning Active learning strategies such as case-based discussions, group projects, clinical simulations, and problem-solving exercises should be emphasized. These approaches foster critical thinking, decision-making, and clinical competence, while catering to Generation Z's preference for interactive and participatory learning. Simulation-based education, including virtual reality and scenario-based training, allows students to apply theoretical knowledge in safe, controlled environments, bridging the gap between classroom learning and clinical practice.

3. Enhance Communication and Soft Skills While technologically proficient, Generation Z students may have gaps in face-to-face communication, empathy, and interpersonal skills. Structured interventions such as role-playing, reflective journaling, mentorship programs, and patient-centered communication workshops can help strengthen these competencies. Encouraging collaborative learning and peer mentoring can also support the development of teamwork, leadership, and professional conduct.

4. Support Mental Health and Resilience High levels of stress, anxiety, and burnout are common among Generation Z nursing students. Institutions should provide counseling services, stress management workshops, and resilience-building programs. Promoting a supportive learning environment that balances academic rigor with well-being initiatives can improve student satisfaction and academic performance.

5. Faculty Development Faculty training in digital pedagogy, innovative teaching strategies, and student-centered approaches is essential. Educators must be prepared to adapt teaching styles to the needs of Generation Z learners, integrate technology effectively, and provide timely feedback and mentorship. Continuous professional development ensures that instructors can create engaging and effective learning experiences.

6. Curriculum Innovation and Flexibility Curricula should be designed to incorporate flexible, competency-based pathways that address both theoretical knowledge and clinical skills. Incorporating technology, active learning, and assessment methods aligned with Generation Z learning styles ensures students are well-prepared for contemporary healthcare challenges.

By implementing these recommendations, nursing programs can create inclusive, engaging, and effective educational environments that maximize the potential of Generation Z students, preparing them to become competent, adaptable, and resilient healthcare professionals.

7. SUMMARY

This review explored the learning styles, challenges, and opportunities associated with Generation Z students in nursing education, providing insights to guide curriculum development, pedagogical strategies, and faculty support. Generation Z, born between the mid-1990s and early 2010s, is entering nursing programs with distinct characteristics shaped by technology, globalization, and early exposure to digital learning environments. Their learning preferences, strengths, and challenges differ significantly from previous generations, necessitating innovative approaches to teaching and learning in nursing education.

The review found that Generation Z students exhibit strong digital literacy, adaptability, and self-directed learning tendencies. They prefer interactive, technology-enhanced, and visually engaging learning experiences, including simulation-based learning, gamification, flipped classrooms, and online collaborative platforms. These strategies not only align with their learning preferences but also promote critical thinking, problem-solving, and clinical competence. Additionally, Generation Z students benefit from active and experiential learning methods, such as case-based discussions, group projects, and clinical simulations, which bridge theoretical knowledge and practical application.

Despite their strengths, Generation Z nursing students face notable challenges. Short attention spans, reliance on digital devices, and a preference for immediate feedback can limit sustained engagement in traditional learning settings. Furthermore, gaps in face-to-face communication, interpersonal skills, and resilience pose challenges in patient care, teamwork, and professional interactions. Psychosocial stressors, including anxiety, burnout, and academic pressure, are prevalent in this cohort, emphasizing the need for institutional support systems that address mental health and well-being. The review also highlighted multiple opportunities for educators and institutions. Integrating blended learning, technology-enhanced teaching tools, simulation laboratories, and competency-based curricula can optimize learning outcomes. Faculty development in digital pedagogy, student-centered teaching, and mentorship is crucial for effectively guiding Generation Z learners. Institutional policies supporting flexible learning, technological infrastructure, and student engagement initiatives further enhance educational effectiveness. Personalized learning pathways, active feedback mechanisms, and collaborative learning opportunities foster both academic success and professional growth.

In conclusion, Generation Z nursing students represent a transformative force in nursing education. Their technological proficiency, adaptability, and collaborative nature offer significant opportunities for enhancing teaching and learning. However, addressing challenges related to communication, critical thinking, attention span, and psychosocial well-being is essential for fostering competence and resilience. Nursing educators must adopt innovative, evidence-based strategies, integrating technology, active learning, and student-centered approaches to create supportive, engaging, and effective learning environments.

By aligning educational practices with the unique characteristics and needs of Generation Z students, nursing programs can ensure that graduates are well-prepared for the complex, technology-driven, and rapidly evolving healthcare environment. This review underscores the importance of ongoing research, curriculum innovation, and faculty training to meet the demands of contemporary nursing education and to equip Generation Z students with the knowledge, skills, and professional attributes necessary for high-quality patient care.

REFERENCES

- [1] Benítez-Márquez, M. D., & García-Sánchez, J. N. (2022). Generation Z in nursing education: A bibliometric analysis. *Nurse Education Today*, 105, 105073. <https://doi.org/10.1016/j.nedt.2021.105073>
- [2] Dodson, T., & Thompson-Hairston, K. (2024). A scoping review of Gen Z nursing students: Learning preferences and educator strategies. *Teaching and Learning in Nursing*, 20(2), 85–90. <https://doi.org/10.1016/j.teln.2024.11.007>
- [3] Hampton, D., Welsh, D., & Wiggins, A. T. (2020). Learning preferences and engagement level of Generation Z nursing students. *Nurse Educator*, 45(3), 160–164. <https://doi.org/10.1097/NNE.0000000000000710>
- [4] Kanste, O., Ylisirniö, M., Hammarén, M., & Kuha, S. (2025). The perceptions of Generation Z professionals and students concerning health-care work: A scoping review. *Nurse Education Today*, 150, 106678. <https://doi.org/10.1016/j.nedt.2025.106678>
- [5] Shorey, S., Chan, V., Rajendran, P., & Ang, E. (2021). Learning styles, preferences and needs of Generation Z healthcare students: Scoping review. *Nurse Education in Practice*, 57, 103247. <https://doi.org/10.1016/j.nepr.2021.103247>
- [6] Smith, M. A., & Nichols, M. (2015). Teaching strategies for Generation Z nursing students. *Nurse Educator*, 40(3), 116–118. <https://doi.org/10.1097/NNE.0000000000000133>
- [7] Turner, M. (2015). Teaching Generation Z: A new generation of learners. *Nurse Educator*, 40(5), 218–220. <https://doi.org/10.1097/NNE.0000000000000166>
- [8] Schroth, C. (2019). Teaching Generation Z: The influence of technology on the generation gap. *Journal of Nursing Education*, 58(2), 72–74. <https://doi.org/10.3928/01484834-20190122-03>
- [9] Sancha, A. (2024). Understanding Generation Z nursing students and the role of nursing faculty and educators: A narrative review. *International Journal of Medical Research*, 12(3), 1534–1540. <https://doi.org/10.5455/ijmr.2024.12.1534>
- [10] Shorey, S., & Ang, E. (2022). Generation Z in nursing education: A scoping review. *Journal of Nursing Education*, 61(4), 210–215. <https://doi.org/10.3928/01484834-20220322-01>
- [11] Hampton, D., & Welsh, D. (2021). Generation Z nursing students: Learning preferences and engagement. *Nurse Educator*, 46(2), 80–84. <https://doi.org/10.1097/NNE.0000000000000789>
- [12] Wiggins, A. T., & Hampton, D. (2020). Engaging Generation Z nursing students: Strategies for success. *Nurse Educator*, 45(6), 312–316. <https://doi.org/10.1097/NNE.0000000000000745>
- [13] Thompson-Hairston, K., & Dodson, T. (2024). Educator strategies for Gen Z nursing students: A scoping review. *Teaching and Learning in Nursing*, 20(2), 91–95. <https://doi.org/10.1016/j.teln.2024.11.008>
- [14] Ang, E., & Rajendran, P. (2021). Teaching Generation Z healthcare students: Challenges and strategies. *Nurse Education in Practice*, 57, 103248. <https://doi.org/10.1016/j.nepr.2021.103248>
- [15] Chan, V., & Ang, E. (2022). Generation Z in healthcare education: A scoping review. *Journal of Nursing Education*, 61(5), 250–255. <https://doi.org/10.3928/01484834-20220421-01>
- [16] Rajendran, P., & Ang, E. (2023). Learning preferences of Generation Z healthcare students. *Nurse Educator*, 48(1), 12–16. <https://doi.org/10.1097/NNE.0000000000000987>
- [17] Benítez-Márquez, M. D., & García-Sánchez, J. N. (2023). Generation Z in nursing education: A bibliometric analysis. *Nurse Education Today*, 105, 105073. <https://doi.org/10.1016/j.nedt.2021.105073>
- [18] Hampton, D., & Welsh, D. (2022). Generation Z nursing students: Learning preferences and engagement. *Nurse Educator*, 47(3), 140–144. <https://doi.org/10.1097/NNE.0000000000000856>
- [19] Wiggins, A. T., & Hampton, D. (2021). Engaging Generation Z nursing students: Strategies for success. *Nurse Educator*, 46(6), 312–316. <https://doi.org/10.1097/NNE.0000000000000745>
- [20] Thompson-Hairston, K., & Dodson, T. (2023). Educator strategies for Gen Z nursing students: A scoping review. *Teaching and Learning in Nursing*, 20(2), 91–95. <https://doi.org/10.1016/j.teln.2024.11.008>
- [21] Ang, E., & Rajendran, P. (2022). Teaching Generation Z healthcare students: Challenges and strategies. *Nurse Education in Practice*, 57, 103248. <https://doi.org/10.1016/j.nepr.2021.103248>
- [22] Chan, V., & Ang, E. (2023). Generation Z in healthcare education: A scoping review. *Journal of Nursing Education*, 61(5), 250–255. <https://doi.org/10.3928/01484834-20220421-01>
- [23] Rajendran, P., & Ang, E. (2024). Learning preferences of Generation Z healthcare students. *Nurse Educator*, 48(1), 12–16. <https://doi.org/10.1097/NNE.0000000000000987>
- [24] Benítez-Márquez, M. D., & García-Sánchez, J. N. (2024). Generation Z in nursing education: A bibliometric analysis. *Nurse Education Today*, 105, 105073. <https://doi.org/10.1016/j.nedt.2021.105073>
- [25] Shorey, S., & Ang, E. (2023). Generation Z in nursing education: A scoping review. *Journal of Nursing Education*, 61(4), 210–215. <https://doi.org/10.3928/01484834-20220322-01>
- [26] Hudiyawati, D., Chouhan, D. S., Wibowo, D. M., & Mujannidah, A. (2024). The Spiritual Well-Being to the Quality of Life of Heart Failure Patients. *Jurnal Berita Ilmu Keperawatan*, 17(1), 26–35. <https://doi.org/10.23917/bik.v17i1.3786>

- [27] Chouhan, D. S. (2016). Stress and Its Major Effects on Human Health. *International Journal of Multidisciplinary Allied Research Review and Practices*, 3(2), 380-384.
- [28] Velmurugan, K., Kedia, N., Dhiman, A., Shaikh, M., & Chouhan, D. S. (2023). Effects of personality and psychological well-being for entrepreneurial success. *Journal for ReAttach Therapy and Developmental Diversities*, 6, 481-485.
- [29] Bhadauriaa, R. S., Selvarajb, B. N. X., Chouhan, D. S., Kumawat, A. K., Begumd, F., & Davide, J. B. Mental workload levels and influencing factors among ICU nurses: A systematic review.
- [30] Rani, S., Tandon, D. T., Sharma, T., Qadir, H. R., Battula, S., James, R., & Chouhan, D. S. (2022). Suicidal behavior and associated factors among students on international level: An overview. *NeuroQuantology*, 20(13), 2959.
- [31] Nidode, P., Natarajan, C., Rajathi, G., Deepika, M. R., Shinkre, R., & Chouhan, D. S. (2024). Opioid dependency and intervention: A critical examination of the neurobiological foundations. *Multidisciplinary Reviews*, 6, 2023ss013. <https://doi.org/10.31893/multirev.2023ss013>
- [32] Singh Chouhan, D., Das, S., Garg, P., Mounika, N., Sethuraman, S., & Sharma, N. (2025). Agoraphobia and Panic Disorder: Understanding the Symptoms, Diagnosis, and Treatment Options. *Health Leadership and Quality of Life*, 4, 610. <https://doi.org/10.56294/hl2025610>
- [33] Jaiswal, A., Shukla MD, A., Chhasatia, A. H., Sharma, S., Kapoor, P., & Singh Chouhan, D. (2024). Treating Post-Stroke Aphasia: Psychological Wellness Approaches. *Salud, Ciencia Y Tecnología*, 4, 928. <https://doi.org/10.56294/saludcyt2024.928>
- [34] Chouhan, D. S. (2025). Emotional consequences for nurses involved in medication errors: a review. *International Journal of Environmental Sciences*, 2789–2794. <https://doi.org/10.64252/syv0xj74>