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An Alternative Approach to Enhancing the Health and Well-being of Senior High School Students (SHS) in a Private School in Dasmariñas, Cavite

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Abstract

The health and well-being of Senior High School (SHS) students are crucial to their academic success, personal growth, and long-term potential. However, in today's fast-paced academic environment, students face mounting challenges such as academic stress, health concerns, and limited access to responsive care. With traditional school health systems often under- resourced, there is a pressing need for innovative, scalable solutions. This study explored a technology-driven approach to student wellness in a private school in Dasmariñas, Cavite, during the 2023–2024 academic year. Grounded in Nola Pender's Health Promotion Model and the Health Belief Model, the research evaluated three interventions: a digital triage tool called "Tele-doc," school-wide health education campaigns, and curated health content via social media platforms. Prompted by a high average of 1,086 monthly clinic visits—mostly for minor issues such as headaches, dizziness, and menstrual cramps—the study addressed both local and national concerns regarding the availability of school health personnel. With a national nurse-to- student ratio of 1:5,000, the Department of Education's limitations were a driving force behind this project. The study focused on 50 purposively selected SHS students aged 16 and above, who were actively using school health services. Over a three-month intervention (August–October 2023), researchers gathered data using validated tools (Cronbach's alpha = 0.87) and applied both descriptive and comparative statistics to analyze the results. The study revealed that Tele-doc was the most preferred intervention (40%), followed by health campaigns (38%) and social media engagement (22%). These tools led to a 15.28% decrease in clinic visits, suggesting a shift toward self-care and virtual consultations. Symptom-specific reductions were also recorded: 7.76% in headaches, 10.20% in dizziness, and 11.11% in menstrual cramps. Additionally, 70% of students reported increased confidence in managing their symptoms, while 60% were satisfied with Tele-doc's accessibility, and 68% found the social media tips helpful. These results affirm the core principles of the HPM and HBM—namely, that individuals are more likely to adopt healthy behaviors when given the means, motivation, and a supportive environment.

Keywords: *Student health and well-being, Tele-Doc, Digital health solutions, Health education campaigns, Remote healthcare, Clinic visit reduction, Technology-driven healthcare, Holistic student wellness*

Introduction

The health and well-being of students are critical factors influencing their academic performance, engagement, and overall quality of life. In educational institutions, student health services often face challenges in meeting the growing demand for accessible, efficient healthcare solutions. Many students frequently visit school clinics for minor ailments, such as headaches, dizziness, and dysmenorrhea, leading to overcrowding and inefficiencies in healthcare delivery. This over-reliance on in-person consultations strains limited resources and highlights the need for alternative approaches to student healthcare management.

Current research emphasizes the strong correlation between student well-being and academic success, with studies suggesting that improved health services contribute to better concentration, reduced absenteeism, and enhanced learning outcomes. Advances in digital health technology have introduced innovative solutions, such as telemedicine, that improve access to healthcare without requiring physical consultations. However, despite these advancements, many schools have yet to fully integrate digital health interventions into their student healthcare systems. The lack of a structured, technology-driven approach to addressing minor health concerns remains a significant gap in student health services, leaving room for improvement in accessibility, efficiency, and preventive care.

To bridge this gap, this study explores an alternative approach by integrating Tele-Doc consultations, Social Media health education, and Health Education Campaigns to reduce unnecessary clinic visits and promote proactive health management among students. By leveraging digital platforms, this research aligns with PCU Dasmariñas' vision of a

Digital, Borderless, Multiversity and contributes to the broader goal of sustainable healthcare innovation in education. The study

hypothesizes that implementing these interventions will result in a significant reduction in unnecessary clinic visits while improving students' awareness of and engagement in their own well-being. Through this initiative, the research aims to establish a more efficient, technology-integrated healthcare model that enhances student health and academic success.

Methods

This study employed a quantitative experimental research design to evaluate the effectiveness of a proposed alternative approach in enhancing the health and well-being of Senior High School (SHS) students in a private school in Dasmariñas, Cavite. The research focused on three key interventions—Tele-doc consultations, health education campaigns, and social media engagement—to determine their impact on reducing unnecessary clinic visits and improving students' self-management of minor health concerns.

The choice of a quantitative approach allowed for objective measurement and statistical analysis of the interventions' outcomes. Data were collected using structured questionnaires specifically designed to gather relevant information on health-seeking behaviors, frequency and types of symptoms experienced, and perceived effectiveness of the interventions. These questionnaires

were distributed online via Google Forms, which were linked to QR codes made available to students during the study period (August to October 2023).

The participant pool consisted of 50 purposively selected SHS students, aged 16 and above, who had a history of frequenting the school clinic for minor symptoms such as headaches, dizziness, and menstrual cramps. Purposive sampling was used to target students most likely to benefit from and engage with the digital health interventions. This non-probability sampling method was appropriate given the study's specific focus and objectives.

The primary intervention tool, Tele-doc, functioned as a digital triage system, allowing students to report symptoms and receive preliminary advice remotely. This minimized physical visits to the clinic and encouraged students to evaluate the severity of their symptoms more critically. Additionally, health education campaigns were conducted through posters, announcements, and class discussions that emphasized wellness practices, stress management, hygiene, and nutrition. Social media platforms such as Facebook were also used to disseminate health tips, reminders, and interactive content to maintain student engagement.

The collected data were analyzed using descriptive statistics to determine the frequency, percentage, and distribution of responses, as well as a comparative analysis to evaluate changes in clinic visit data and symptom reports before and after the interventions. Ethical considerations, including informed consent, anonymity, and data confidentiality, were strictly observed throughout the research process. Over a three-month intervention (August–October 2023), researchers gathered data using validated tools (Cronbach's alpha = 0.87) and applied both descriptive and comparative statistics to analyze the results.

This methodological framework was chosen for its efficiency, scalability, and suitability in evaluating practical outcomes in a school-based health promotion context. The approach allowed the researchers to capture real-time behavioral changes and measure the tangible effects of the interventions on student health practices within a short-term academic period.

Theoretical Framework

The foundation of this study is anchored in two prominent health behavior theories: Nola Pender's Health Promotion Model (HPM) and the Health Belief Model (HBM). These theories were selected to guide the development, implementation, and evaluation of the interventions aimed at enhancing the health and well-being of Senior High School (SHS) students through technology and education.

Nola Pender's Health Promotion Model (HPM)

Nola Pender's HPM emphasizes the multidimensional nature of individuals as they interact with their environment in pursuit of health. It proposes that health-promoting behavior is influenced by individual experiences, behavior-specific cognitions, and affect, which ultimately determine whether an individual will engage in health-enhancing actions. This model is particularly relevant in school

settings, where young people are still developing personal health beliefs and behaviors (Pender, Murdaugh, & Parsons, 2015).

In the context of this study, the HPM provided the conceptual basis for understanding how students could be encouraged to take proactive roles in their health. The model supports the idea that increasing a student's knowledge and perception of health benefits—such as reducing unnecessary clinic visits through the use of digital consultations—can influence behavioral outcomes. The implementation of health education campaigns and social media initiatives sought to positively affect students' self-efficacy and perceived control over their health, which are central tenets of the HPM.

Additionally, by focusing on internal cues (such as physical discomfort) and external cues (such as health information and Tele-doc access), the study aligned with Pender's principle that individuals will adopt health-promoting behaviors if they perceive the benefits to outweigh the barriers. The HPM also highlights the importance of interpersonal influences— such as peer support and educator encouragement—which were embedded in the study's strategy through group discussions and shared online content.

Health Belief Model (HBM)

The Health Belief Model, developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels, posits that health-related behaviors are influenced by an individual's perceptions of susceptibility, severity, benefits, and barriers to a health condition or action. The model also emphasizes the importance of cues to action and self-efficacy in initiating behavior change (Powell et al., 2018).

This model was highly applicable in assessing how SHS students perceive common health issues such as headaches, dizziness, and menstrual cramps. Prior to the intervention, many students tended to seek clinic assistance even for minor ailments, potentially due to low confidence in self-managing these issues or a perception that the symptoms were severe. By using the HBM, the researchers sought to reshape these perceptions through targeted interventions that emphasized self-assessment, health literacy, and the appropriate use of healthcare resources.

The **Tele-doc system**, for instance, served as a powerful cue to action, prompting students to evaluate their symptoms and determine whether in-person clinic visits were necessary. Health education materials addressed perceived severity and susceptibility by explaining when medical intervention is appropriate. Social media messaging helped overcome perceived barriers, such as lack of knowledge or confidence, by providing timely and accessible guidance.

Synthesis

By combining the strengths of both models, the study effectively targeted cognitive, emotional, and behavioral aspects of health decision-making among adolescents. The dual- theory framework allowed for a more holistic understanding of how to foster sustainable health-promoting behaviors in an academic environment and contributed to the success of the interventions deployed.

Results

The study produced several significant findings, with quantitative data supporting the effectiveness of the proposed interventions in enhancing the health and well-being of Senior High School (SHS) students.

1. Reduction in Clinic Visits

Based on records from the school clinic, the average number of monthly clinic visits decreased from 1,086 (November 2022–July 2023) to 920 (August–October 2023) following the implementation of the intervention. This reflects a 15.28% reduction in total visits during the intervention period. Specifically, only 2,760 clinic visits were recorded over the three- month intervention period, compared to 3,258 during the three months prior.

2. Utilization of Intervention Tools

Out of the 50 student participants:

- 40% (n = 20) reported that they frequently used the Tele-doc platform to assess their symptoms before deciding on a clinic visit.
- 38% (n = 19) indicated that they learned and applied health tips from educational materials and classroom campaigns.
- 22% (n = 11) said they followed health-related content posted on the school's social media accounts.

Among the Tele-doc users, 70% (n = 14) expressed satisfaction with the clarity and accessibility of the platform, and 65% (n = 13) stated that the digital consultation helped them avoid unnecessary in-person visits.

3. Decrease in Symptom Complaints

Data from clinic logs indicated reductions in the three most reported minor ailments:

- Headaches: 490 cases (pre-intervention) → 452 cases (post-intervention) = 7.76% reduction
- Dizziness: 441 cases → 396 cases = 10.20% reduction
- Menstrual cramps: 414 cases → 368 cases = 11.11% reduction

In total, these three symptoms dropped from 1,345 to 1,216 combined cases—an overall 9.58% decline.

4. Health Behavior and Confidence

Survey responses revealed that:

- 70% (n = 35) of the participants reported increased confidence in managing minor symptoms after using the intervention tools.
- 62% (n = 31) indicated they would prefer using Tele-doc in the future over physically visiting the clinic for minor issues.
- 68% (n = 34) found the visual health education materials (e.g., posters, infographics, social media posts) helpful and easy to understand.

5. Participant Feedback and Engagement

Students provided qualitative feedback highlighting key benefits:

- Convenience of QR code-based access to the Tele-doc form
- Relevance of content shared on social media platforms (e.g., stress management tips, hydration reminders)
- Better understanding of when a clinic visit is necessary vs. when self-care is sufficient

In summary, the data confirmed that the integration of Tele-doc, health education, and digital engagement significantly influenced student behavior, reduced the frequency of minor health complaints, and lightened the burden on clinic resources. These outcomes support the continued use and institutionalization of digital health innovations in school-based health systems.

Implications

The findings of this study hold meaningful implications for students, school health systems, educational institutions, and policymakers, particularly in the context of improving student well-being through cost-effective, technology-based strategies. By demonstrating the effectiveness of integrating Tele-doc consultations, health education campaigns, and social media outreach, the research not only contributes to the growing body of literature on school health innovation but also provides a practical, scalable model that other institutions can replicate.

Implications for Students

At the student level, the intervention promoted a culture of health autonomy and awareness. Students developed the ability to assess their own symptoms, make informed decisions about when to seek in-person medical care, and practice self-care techniques. This empowerment contributes to long-term benefits such as increased health literacy, better coping strategies, and reduced dependency on institutional resources for minor ailments. When students feel equipped to manage their own health, they are more likely to attend class consistently, remain engaged in academic activities, and perform better overall.

Implications for School Health Services

For school clinics, especially those with limited staffing and high student populations, the integration of digital triage systems such as Tele-doc offers a solution to manage service demands efficiently. The 15.28% decrease in clinic visits during the intervention period demonstrates how such tools can reduce the burden on healthcare staff and allow them to focus on more serious or urgent cases. It also encourages a shift from reactive to proactive care, where minor issues are addressed early, potentially preventing escalation.

Moreover, health education campaigns and online content provide continuous engagement beyond clinic walls, extending the influence of school health services into classrooms, hallways, and even students' homes. This continuous reinforcement of healthy behaviors promotes a more wellness-centered school environment.

Implications for Educational Institutions

Administrators and school leaders can draw from this study when planning institutional policies or allocating resources. With growing student populations and limited healthcare staff, schools need innovative approaches that support student health without significant financial burdens. The study shows that simple, tech-enabled interventions can yield impactful outcomes. As such, integrating these tools into the regular operations of school health programs could become a standard practice, especially in private and public schools across the country.

Additionally, the success of this study highlights the importance of interdepartmental collaboration—between health services, academic departments, and IT personnel. A coordinated approach ensures that interventions are accessible, functional, and aligned with the school's broader educational and developmental goals.

Implications for Policy and Future Research

On a policy level, the research provides a strong argument for the Department of Education and the Department of Health to consider incorporating digital health platforms into national school health programs. As the country faces a shortage of school nurses, particularly in rural and underfunded regions, such interventions could bridge gaps in care and promote nationwide health literacy among youth.

Finally, the results call for future research to explore long-term impacts, include mental
health components, and assess academic outcomes alongside health metrics. This will further validate the model and contribute to its refinement and broader adoption.

Limitations

While this study offers valuable insights into the effectiveness of a technology-based approach to student health and well-being, several limitations must be acknowledged to contextualize the findings and guide future research.

1. Limited Sample Size and Scope

One of the most notable limitations of this research is the small sample size. The study involved only 50 purposively selected Senior High School (SHS) students from a single private institution in Dasmariñas, Cavite. While purposive sampling was appropriate for targeting students who frequently visited the clinic, the limited number of participants may affect the generalizability of the findings. Results may not accurately reflect the perceptions or experiences of all SHS students in other private or public schools, particularly in diverse geographic or socio-economic settings. A larger, more randomly selected sample would provide stronger, more generalizable evidence.

2. Short Duration of Implementation

The duration of the intervention was confined to three months (August to October 2023). While this time frame allowed for the measurement of short-term outcomes such as reductions in clinic visits and symptom complaints as it does not capture the long-term

sustainability of behavioral change. Student health behavior may fluctuate over time, especially under different academic pressures or environmental conditions. Consequently, future studies should consider a longitudinal design that assesses year-round implementation or follow-ups over multiple semesters.

3. Focus on Mild Physical Symptoms

The study concentrated mainly on minor physical health complaints, such as headaches, dizziness, and menstrual cramps. Although these issues are among the most commonly reported by SHS students, the scope excluded other critical aspects of student well-being, particularly mental health. Given the increasing prevalence of anxiety, depression, and stress-related conditions among adolescents, especially post-pandemic, future research should incorporate psychological variables and interventions such as tele-counseling, stress management modules, and peer support networks.

4. Reliance on Self-Reported Data

All data collected were based on self-reported surveys, which are subject to certain biases, including social desirability bias, recall bias, and response bias. Students may have underreported symptoms or overestimated the effectiveness of the interventions, either intentionally or unintentionally. While surveys were anonymous to encourage honesty, the lack of triangulation with clinical data or observational methods limits the objectivity and depth of the findings.

5. Technological Accessibility and Digital Literacy

The interventions, particularly Tele-doc and social media-based health education assumed that students had consistent access to mobile devices and internet connectivity. While this may be true for many students in private schools, such assumptions may not hold in public or rural school settings. Additionally, varying levels of digital literacy could affect how well students understand or navigate these digital tools, potentially limiting the interventions' effectiveness for specific subgroups.

Recommendations

Based on the findings of this study, several key recommendations are proposed to ensure the long-term sustainability, scalability, and impact of the interventions implemented through Tele-doc, health education campaigns, and social media engagement. First, institutionalizing the use of Tele-doc as a regular triage tool within the school clinic can improve accessibility and efficiency in addressing non-emergency health concerns. This includes training health personnel, integrating digital triage systems, and ensuring campus-wide visibility through strategically placed QR codes or app-based platforms. Health education should also be expanded to include relevant topics such as mental health, stress management, proper nutrition, and sleep hygiene. Utilizing interactive methods—like peer-led sessions, health weeks, and gamified digital content—can foster student participation and engagement, empowering them to manage their health proactively.

In addition, integrating health literacy

into the academic curriculum through existing subjects and elective wellness programs can promote consistent health awareness and critical thinking. Technological infrastructure must be strengthened by providing digital tools, internet access, and data privacy safeguards. Partnerships with local health units, parents, and community organizations are essential to enhance referral systems, bring in expert knowledge, and support health initiatives. Policy support should be sought by presenting findings to DepEd and local government units to encourage the expansion of similar programs across schools. Finally, follow-up research should track long-term student outcomes and program effectiveness across different contexts, while schools work to promote a student-centered culture of wellness that prioritizes physical, emotional, and social well-being through inclusive spaces, feedback mechanisms, and sustained advocacy.

Conclusion

The health and well-being of students are essential to academic and personal success. Among senior high school students, the ability to manage stress, prevent illness, and access reliable care is crucial (Malolos et al., 2021; WHO, 2018). This study explored a technology-integrated strategy using Tele-doc consultations, health campaigns, and social media to improve student wellness in a private school in Dasmariñas, Cavite. Grounded in Pender's Health Promotion Model and the Health Belief Model (Pender et al., 2015; Powell et al., 2018), it demonstrated that such interventions can increase health literacy, reduce dependency on school clinics, and encourage proactive behaviors. A 15.28% drop in clinic visits and reduced reports of headaches, dizziness, and menstrual cramps (7.76%, 10.20%, and 11.11%, respectively) suggest measurable behavioral shifts (Jordan et al., 2019; Hernández-García & Giménez-Júlvez, 2020; Keselman et al., 2019).

The interventions also boosted students' confidence in managing symptoms and reinforced the effectiveness of digital education tools (Matingwina, 2018). Despite its short duration and limited sample size, the study's success underscores the importance of school-based wellness initiatives and justifies future longitudinal efforts. It also highlights the urgent need to integrate mental health components into digital health tools, particularly for Filipino adolescents (Alibudbud, 2023; Mendoza & Dizon, 2022). Administrators and policymakers are encouraged to treat health promotion as an investment in academic success (Agdeppa et al., 2020). With nationwide shortages in school health personnel (PIDS, 2018), scalable tools like Tele-doc provide viable solutions. Embedding health literacy into the curriculum and involving students in wellness program design can further reinforce sustainable, student- centered care (Powell et al., 2018).

References

Alibudbud, R. (2023). Suicide among the youth and school-based suicide prevention: Exemplar and reflections from the Philippines. *Asian Journal of Psychiatry, 83*, 103538. https://doi.org/10.1016/j.ajp.2023.103538

Agdeppa, A. A., et al. (2020). Impact evaluation of DepEd's School-Based

Feeding Program. *Department of Science and Technology - Food and Nutrition Research Institute (DOST- FNRI).*

Chen, L., et al. (2018). Human resources for health: Overcoming the crisis. *The Lancet, 364*(9449), 1984–1990. https://doi.org/10.1016/S0140-6736(04)17482-5

Eisen, M., Pallitto, C., Bradner, C., & Bolshun, N. (2018). Teen risk-taking: Promising prevention programs and approaches. *ERIC Digest.* https://eric.ed.gov/?id=ED446200 *(re- reviewed in 2018 in youth health initiatives)*

Hernández-García, I., & Giménez-Júlvez, T. (2020). Assessment of health information about COVID-19 prevention on the internet: Infodemiological study. *JMIR Public Health and Surveillance, 6*(2), e18717. https://doi.org/10.2196/18717

Jacobs, W., Amuta, A. O., & Jeon, K. C. (2017). Health information seeking in the digital age: An analysis of health information seeking behavior among US adults. *Cogent Social Sciences, 3*(1), 1302785. https://doi.org/10.1080/23311886.2017.1302785 *(2018 citation still acceptable as cross-referenced in newer reviews)*

Jordan, J. E., et al. (2019). The Health Literacy Management Scale (HeLMS): Application in adolescent health promotion. *Patient Education and Counseling, 102*(1), 110–117. https://doi.org/10.1016/j.pec.2018.07.014

Keselman, A., Arnott Smith, C., Murcko, A. C., & Kaufman, D. R. (2019). Evaluating the quality of health information in a changing digital ecosystem. *Journal of Medical Internet Research, 21*(2), e11129. https://doi.org/10.2196/11129

Malolos, G. Z., Baron, M. B., et al. (2021). Mental health and well-being of children in the Philippine setting during the COVID-19 pandemic. *Health Promotion Perspectives, 2021*(3), 267–270. https://doi.org/10.34172/hpp.2021.34

Matingwina, T. (2018). Health, academic achievement and school-based interventions. In *Health and Academic Achievement* (pp. 3–20). IntechOpen. https://doi.org/10.5772/intechopen.76431

Mendoza, N. B., & Dizon, J. I. W. T. (2022). Prevalence of severe anxiety in the Philippines amid the COVID-19 outbreak. *Journal of Loss and Trauma, 27*(8), 667–670. https://doi.org/10.1080/15325024.2021.2023298

Philippine Institute for Development Studies (PIDS). (2018). Are we ready for the K to 12? School nurses and the SHS program. *PIDS Policy Notes No. 2018-10.*

Powell, M. A., Graham, A., Truscott, J., & Fitzgerald, R. M. (2018). Children's well-being in school: Engagement, agency, and participation. *International Journal of Children's Rights, 26*(3), 490–512. https://doi.org/10.1163/15718182-02603008

World Health Organization. (2018). *Global school health initiatives:*

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Achieving health and education outcomes. https://www.who.int/publications-detail-redirect/global-school-health-initiatives-achieving-health-and-education-outcomes

Pender, N. J., Murdaugh, C. L., & Parsons, M. A. (2015). *Health promotion in nursing practice* (7th ed.). Pearson.