

Educational Approaches for Increasing Knowledge of Colorectal Cancer Among Senior High School Students at Canossa College, San Pablo City, Inc

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Abstract: This study evaluated the effectiveness of a structured health-teaching intervention in increasing knowledge of colorectal cancer among senior high school students at Canossa College, San Pablo City, Inc. A one-group pretest-posttest design was employed with 76 students. Participants' exposure to the program and implementation fidelity were also assessed. The results showed a statistically significant improvement in overall knowledge after the intervention, with the grand mean increasing from 65.6% on the pretest to 84.3% on the posttest ($p < .001$). The highest posttest scores were recorded for risk factors (92.1%) and colorectal cancer concepts (89.5%), whereas anatomy and physiology of the colon and rectum remained the weakest domain (74.5%). Knowledge gains were consistent across age, sex, and grade level. The intervention also achieved very high exposure and implementation fidelity (composite mean = 4.34). These findings indicate that a symposium-based health-teaching intervention can significantly improve colorectal cancer knowledge among senior high school students.

Keywords: Colorectal Cancer, Health-Teaching Intervention, Symposium, Knowledge Improvement, Senior High School Students, One-Group Pretest-Posttest Design, Implementation Fidelity.

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I. INTRODUCTION

Colorectal cancer (CRC) remains one of the most significant global and local health concerns. In the Philippines, it is the third most common cancer and the fourth leading cause of cancer-related deaths, with 10,692 deaths reported in 2022 (MIMS Philippines, 2025). According to Qi et al. (2025), many colorectal cancers are detected only at advanced stages, with a five-year survival rate of just 14% for patients with distant metastasis. The Department of Health

(2023) and World Health Organization (2022) emphasize that low screening rates, combined with poor knowledge and neglect of preventive habits, such as balanced diet, regular exercise, timely screening, and recognition of early digestive symptoms, contribute to late diagnosis and poorer outcomes. This highlighted the critical importance of early detection and screening.

Although CRC has traditionally been viewed as a disease of adults aged 45–50 years and above, incidence

among younger individuals is rising. In the United States, CRC incidence rates among adults aged 20–49 years have risen rapidly, reaching 12.9 per 100,000 in 2018 (Dharwadkar et al., 2022). Levine & Zbuk (2019), younger patients are often diagnosed at later stages due to delayed detection, highlighting the need for research on early screening, tumor biology, and age-appropriate treatment strategies. McClelland et al (2021), CRC is often detected late in younger individuals, emphasizing the need for improved awareness and early detection strategies in this population.

This highlights a critical knowledge gap regarding colorectal cancer risk factors, symptoms, and the importance of early screening, particularly among adolescents and young adults. Addressing this gap through targeted health education programs is essential to promote preventive behaviors, improve early detection, and ultimately reduce the burden of CRC in the Filipino population. Early health education and preventive practices are essential to reduce colorectal cancer risk among young Filipinos (Gutierrez & Edusma-Dy, 2025). This is supported by Streith et al. (2022), who found that structured educational interventions improve understanding of CRC screening and increase willingness to undergo screening. Similarly, Zhang et al. (2025b) showed that health education programs significantly enhance awareness of at-risk populations and encourage participation in preventive measures.

This study supports Sustainable Development Goal 3 by promoting preventive health education to enhance awareness, encourage early action, and reduce cancer-related deaths.

II. METHODOLOGY

➤ Research Design

This study used a quantitative research approach with a pre-experimental design, specifically a one-group pretest–posttest design, to determine the effect of a structured health education program on the knowledge of senior high school subjects in Canossa regarding colorectal cancer. By comparing the pretest and posttest scores of the same group of subjects, the study provided objective evidence of the program's effectiveness in increasing awareness, correcting misconceptions, and promoting preventive health practices such as early detection and screening.

➤ Subject of the Study

The subjects were selected based on specific inclusion criteria: they were officially enrolled Grade 11 or 12 students at Canossa College, San Pablo City, Inc., for the second semester of the academic year 2025–2026. Eligible participants were aged 15 to 19 and were required to complete all three phases; the pretest, symposium, and posttest. Only those who finished the entire sequence were included in the final analysis to ensure the sample accurately represented the target population's knowledge of colorectal cancer.

➤ Sampling Technique

For this study the researchers used purposive sampling (criterion-based sampling) to select subjects. Inclusion criteria required that subjects must (1) complete the pre-test,

(2) attend the symposium, and (3) complete the post-test. Only subjects who fulfilled all these criteria were included in the final sample to ensure consistency and validity in measuring the effect of the symposium.

➤ Research Instrument

The study utilized a structured questionnaire covering three domains: demographics, colorectal cancer knowledge, and program implementation. The first section collected year level, sex, and age group. The second section consisted of a 25-item multiple-choice test on anatomy and physiology, basic concepts, risk factors, at-risk populations, and screening. The same test was administered pre- and post-intervention with rearranged items to minimize recall bias, designed for completion within 15–20 minutes. The third section evaluated program implementation using 10 Likert-scale items (1–5), with four items assessing exposure and six assessing fidelity. Scores were categorized into Exposure (4–20), Fidelity (6–30), and Total Implementation (10–50), where higher scores indicated better implementation.

➤ Data Gathering Procedure

The researchers secured administrative approval from the Dean's Office and program chairs, alongside ethical clearance, prior to data collection. The three-part instrument was finalized, pilot-tested, and evaluated for clarity. In coordination with faculty, the researchers identified target sections and recruited participants, obtaining formal written consent and parental assent for minors. Following a standardized pretest, subjects underwent a health education intervention. Post-intervention data collection occurred 72 hours later, followed by an assessment of exposure and implementation fidelity. Prior to analysis, a rigorous data quality check was performed to rectify inconsistencies, duplicate entries, and out-of-range values.

➤ Statistical Treatment of Data

To gather, analyze, and interpret the data, several statistical tools were employed, beginning with frequency and percentage distributions to summarize demographic profiles and subject performance across pretest and posttest categories. The mean was used to determine the average score in each knowledge area and implementation indicator, while the standard deviation (SD) described the variability of scores around those averages. To ensure the internal consistency of the dichotomous knowledge test, the Kuder-Richardson Formula 20 (KR-20) was applied. For inferential analysis, the Mann-Whitney U test was used to compare differences between two independent demographic groups, while the Kruskal-Wallis H test assessed differences among three independent age groups. Finally, the Wilcoxon Signed-Rank test was utilized to measure the significant difference between subjects' pretest and posttest scores, effectively evaluating the intervention's impact across all domains.

➤ Ethical Considerations

The study adhered to ethical standards, obtaining institutional approval, informed consent, voluntary participation, and ensuring confidentiality.

III. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter presents the results and discussion of the study, focusing on the subject's demographic profile, baseline knowledge of colorectal cancer, and knowledge after the health teaching intervention.

Table 3 Frequency Distribution of the Subject

Sex	Frequency	Percentage
Male	30	39.5%
Female	46	60.5%
Grade Level		
Grade 11	47	61.8%
Grade 12	29	38.2%
Age		
16	32	42.1%
17	28	36.8%
18	16	21.1%
TOTAL	76	100%

The findings show that most of the 76 participants were female Grade 11 students aged 16–17 years. Age and academic progression influence formal health education and

baseline disease knowledge, while lower health literacy is linked to greater gaps in colorectal cancer awareness and screening (Zhu et al., 2021).

Table 4 Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention in Terms of Anatomy and Physiology of Colon and Rectum

Indicator	Frequency	Percentage
Outstanding (90-100%)	9	11.8%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	11	14.5%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	56	73.7%
TOTAL	76	100%
Mean	54.7 %	
SD	26.8	

The findings indicate a significant knowledge gap in subjects' understanding gastrointestinal function. This is consistent with Siegel et al. (2023), who reported limited awareness of gastrointestinal anatomy and disease processes among young individuals. Ortega et al. (2025) emphasized

that visual and interactive strategies improve comprehension of complex anatomical concepts. This underscored the need for effective health teaching to improve baseline knowledge and support better comprehension of colorectal cancer concepts.

Table 5 Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention in Terms of Concepts Related to Colorectal Cancer

Indicator	Frequency	Percentage
Outstanding (90-100%)	17	22.4%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	29	38.2%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	30	39.5%
TOTAL	76	100%
Mean	77.0 %	
SD	22.8	

The pre-test results show that most subjects had limited knowledge of colorectal cancer. This is consistent with Dharwadkar et al. (2022), who linked low awareness to delayed diagnosis and poor screening practices, emphasizing the need for targeted health education. These findings

highlight the need for standardized, school-based health education, as emphasized by Nutbeam (2019), who stressed that structured and interactive approaches are essential for improving health literacy beyond basic awareness.

Table 6 Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention in Terms of Risk Factor

Indicator	Frequency	Percentage
Outstanding (90-100%)	44	57.9%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	13	17.1%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	19	25.0%
TOTAL	76	100%
Mean	81.6%	
SD	27.5	

The findings suggest that before the intervention, subjects had relatively good awareness of colorectal cancer risk factors. However, the high standard deviation (SD = 27.5) indicates wide variability, with stronger understanding in some and limited awareness in others. These results highlight the need for structured school-based health

education to ensure consistent and comprehensive understanding. This aligns with the American Cancer Society (2023) and Levine and Zbuk (2019), which note that genetic and medical risk factors are less well understood and require targeted education, especially among younger populations.

Table 7 Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention in Terms of the Risk Population

Indicator	Frequency	Percentage
Outstanding (90-100%)	18	23.7%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	15	19.7%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	43	56.6%
TOTAL	76	100%
Mean	67.4%	
SD	24.6	

The finding was uneven, with notable gaps despite some strong understanding, which highlight the need for structured and targeted health education. This aligns with literature showing that poor awareness of risk populations contributes to low screening uptake and delayed diagnosis. In

the Philippine context, colorectal cancer remains common, and early detection significantly reduces incidence and mortality (Isabel et al., 2021), emphasizing the importance of early education among younger populations.

Table 8 Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention in Terms of Colorectal Cancer Screening

Indicator	Frequency	Percentage
Outstanding (90-100%)	0	0%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)		13.20
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	66	86.60
TOTAL	76	100%
Mean	51.6%	
SD	16.4	

The results indicate that the subjects demonstrated a very low level of knowledge, which is consistent with existing literature emphasizing that lack of knowledge is a major barrier to cancer screening uptake. According to the American Cancer Society (2023), early detection of colorectal cancer significantly improves survival rates, with approximately 90% five-year survival when detected early

compared to much lower rates at advanced stages. However, awareness of screening recommendations, such as starting at age 45 for average-risk individuals, remains limited (Partyka et al., 2025). This reinforces the importance of early and comprehensive education to improve awareness and future participation in screening practices.

Table 9 Overall Level of Knowledge Regarding Colorectal Cancer before the Implementation of the Health Teaching Intervention

Sub - Areas	Mean	VI	SD
Anatomy of Colon and Rectum	54.7	Did not meet expectations	26.8
Colorectal Cancer	72.6	Did not meet expectations	22.8
Risk Factor	81.6	Satisfactory	27.5
Risk Population	67.4	Did not meet expectations	24.6
Colorectal Cancer Screening	51.6	Did not meet expectations	16.4
Grand Mean	65.6% - Did not Meet Expectations		
SD	15.4		

These results highlight important implications for health education, as the low grand mean suggests inadequate baseline knowledge prior to the intervention. This indicates the need for structured and comprehensive education to address gaps across all domains, which align with literature

showing that limited awareness of screening and early symptoms has been linked to delayed diagnosis and low participation in preventive practices (Partyka et al., 2025), emphasizing the need for early, targeted education to promote preventive health behaviors.

Table 10 Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention in Terms of Anatomy and Physiology of Colon and Rectum

Indicator	Frequency	Percentage
Outstanding (90-100%)	14	18.4%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	29	38.2%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	33	43.4%
TOTAL	76	100%
Mean	74.5%	
SD	15.9	

Subjects showed improved knowledge of the anatomy and physiology of the colon and rectum, although many still did not meet expected levels. These results suggest that the program enhanced anatomical understanding for many subjects, supported by visual materials, discussions, and

interactive activities. (Ortega et al. 2025), study aligns that structured instruction with visual aids and interactive strategies improves understanding of complex anatomy concepts.

Table 11 Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention in Terms of Concepts Related to Colorectal Cancer

Indicator	Frequency	Percentage
Outstanding (90-100%)	44	57.9%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	24	31.6%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	8	10.5%
TOTAL	76	100%
Mean	89.5%	
SD	13.7	

The result shows outstanding and satisfactory performance reflects the effectiveness of structured health education interventions. This is consistent with Alzoubi et al.

(2024) and Marcellon et al. (2023), who reported that interactive and well-designed educational programs enhance knowledge and awareness of colorectal cancer prevention.

Table 12 Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention in Terms of Risk Factor

Indicator	Frequency	Percentage
Outstanding (90-100%)	53	69.7%
Very Satisfactory (85-89%)		
Satisfactory (80-84%)	16	21.1%
Fairly Satisfactory (75-79%)		
Did not meet expectations (below 75%)	7	9.2%
TOTAL	76	100%

Mean	92.1 %	
SD	13.1	

The post-intervention findings show that students achieved a high level of mastery in colorectal cancer risk factors, with improved understanding and consistency. The intervention effectively addressed prior knowledge gaps and clarified differences between modifiable and non-modifiable risks. Studies have demonstrated that structured educational

interventions significantly enhance understanding of cancer risk factors and promote positive health actions (Streith et al., 2022; Zhang et al., 2025a; Ebu et al., 2019). This is particularly important given persistent knowledge gaps in CRC risk factors especially among younger populations (Partyka et al., 2025; Imran et al., 2023).

Table 13 Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention in Terms of Risk Population

Indicator	Frequency	Percentage
Outstanding (90-100%)	34	44.7%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	22	28.9%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	20	26.3%
TOTAL	76	100%
Mean	83.7%	
SD	16.6	

The improved post-test results demonstrate that the health teaching intervention effectively increased senior high school students' knowledge of colorectal cancer risk populations. This is particularly significant in the Philippines, where CRC remains the third most common malignancy, and

early detection through screening, especially colonoscopy, substantially reduces mortality and prevents advanced-stage complications such as malnutrition (Velasco et al., 2022; Isabel et al., 2021).

Table 14 Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention in Terms of Colorectal Cancer Screening

Indicator	Frequency	Percentage
Outstanding (90-100%)	23	30.3%
Very Satisfactory (85-89%)	0	0%
Satisfactory (80-84%)	37	48.7%
Fairly Satisfactory (75-79%)	0	0%
Did not meet expectations (below 75%)	16	21.1%
TOTAL	76	100%
Mean	81.8%	
SD	14.3	

The health teaching intervention resulted in a substantial improvement in the level of knowledge regarding colorectal cancer screening. Findings aligned with literature, Abu et al. (2020) found that targeted health education

significantly increased cervical cancer screening uptake, while Ebu et al. (2019) showed that structured education improved women's knowledge, risk awareness, and perceptions of screening in Ghana.

Table 15 Overall Level of Knowledge Regarding Colorectal Cancer after the Implementation of the Health Teaching Intervention

Sub - Areas	Mean	VI	SD
Anatomy of Colon and Rectum	74.5	Did not meet expectations	15.9
Colorectal Cancer	89.5	Very Satisfactory	13.7
Risk Factor	92.1	Outstanding	13.1
Risk Population	83.7	Satisfactory	16.6
Colorectal Cancer Screening	81.8	Satisfactory	14.3
Grand Mean	84.3% - Satisfactory		
SD	8.95		

The results indicated that the health teaching intervention was effective in elevating students' overall colorectal cancer knowledge to a satisfactory level. These findings align with previous studies. (Sakoda et al. 2019)

reported significant knowledge gains after a group-based lung cancer screening education session delivered by healthcare professionals. (Kolbe 2019) highlighted health education as a core component of school and community health programs,

while (Strobl et al. 2020) demonstrated that structured school-based interventions improve health knowledge and literacy. However, the results underscore the need for targeted

reinforcement in anatomical education to ensure comprehensive understanding.

Table 16 Level of Exposure and Fidelity to the Implementation of the Program

Indicators	Mean	SD	VI
1. I attended most of the scheduled sessions.	4.30	0.61	Strongly Agree
2. Each session was long enough to cover the content.	4.32	0.62	Strongly Agree
3. I completed the learning activities or worksheets.	4.41	0.62	Strongly Agree
4. I received or accessed the program materials (handouts/videos).	4.37	0.56	Strongly Agree
5. Facilitators followed the planned lesson sequence.	4.34	0.58	Strongly Agree
6. Activities were delivered as described in the guide.	4.36	0.58	Strongly Agree
7. Facilitators explained concepts clearly and accurately.	4.32	0.62	Strongly Agree
8. Sessions included interactive methods (discussion, Q&A, demos).	4.33	0.60	Strongly Agree
9. Examples and language were appropriate for Canossa College students.	4.34	0.58	Strongly Agree
10. The program started and ended on time according to the schedule.	4.34	0.58	Strongly Agree
Composite Mean	4.34		Very High
SD	0.23		

Legend: 1.00–1.80 = Very Low Exposure and Fidelity; 1.81–2.60 = Low Exposure and Fidelity; 2.61–3.40 = Moderate Exposure and Fidelity; 3.41–4.20 = High Exposure and Fidelity; 4.21–5.00 = Very High Exposure and Fidelity.

The results indicate strong implementation fidelity and active participation, supporting the observed knowledge gains (grand mean = 84.3%). (Sakoda et al., 2019). These

findings align with literature emphasizing that effective health education depends on structured delivery, facilitator adherence, and learner engagement (Pérez-Jorge et al., 2021).

Table 17 Difference in the Subject's Knowledge Level on Colorectal Cancer before and after the Intervention

Sub - Variable	Mean Score		W-value	p-value	Decision	Conclusion
	Pre-test	Post-test				
Anatomy of Colon and Rectum	54.7 (Did not meet expectation)	74.5 (Did not meet expectation)	152	<.001	Reject Ho	Significant
Colorectal Cancer	72.6 (Did not meet expectation)	89.5 (Very Satisfactory)	25.0	<.001	Reject Ho	Significant
Risk Factor	81.6 (Satisfactory)	92.1 (Outstanding)	98.5	<.001	Reject Ho	Significant
Risk Population	67.4 (Did not meet expectation)	83.7 (Satisfactory)	204	<.001	Reject Ho	Significant
Colorectal Cancer Screening	51.6 (Did not meet expectation)	81.8 (Satisfactory)	0.00	<.001	Reject Ho	Significant
Overall	65.6	84.3	14.0	<.001	Reject Ho	Significant

Shapiro-Wilk (All $p < .05$) Level of Significance = 5%

These results indicate that the health intervention was particularly effective in enhancing practical and actionable knowledge areas that support cancer prevention and early detection, leading to rejection of the null hypothesis. These findings are consistent with studies indicating that structured, interactive health education improves knowledge and health

literacy (Yuniarti et al., 2022; Sakoda et al., 2019; Nutbeam, 2019; Soto Mas & Jacobson, 2019; Strobl et al., 2020). Overall, the intervention was effective in improving colorectal cancer knowledge among subjects at Canossa College, with recommendations to further enhance visual and interactive learning components.

Table 18 Difference in the Level of Knowledge after Intervention when Enhancements are Grouped by Sex

Sub - Variable	Mean Score		U-value	P-value	Decision	Conclusion
	Male	Female				
Anatomy and Physiology of Colon and Rectum	73.3	75.2	655	.690	Failed to Reject Ho	Not Significant
Colorectal Cancer	90.0	89.1	648	.616	Failed to Reject Ho	Not Significant
Risk Factor	91.3	92.6	633	.453	Failed to Reject Ho	Not Significant

Risk Population	82.0	84.8	627	.476	Failed to Reject Ho	Not Significant
Colorectal Cancer Screening	81.3	82.2	663	.755	Failed to Reject Ho	Not Significant
Overall	83.6	84.8	623	.475	Failed to Reject Ho	Not Significant

Shapiro-Wilk (All $p < .05$) Level of Significance = 5%

The results show that the teaching approach enabled equal learning for both sexes, with no domain showing a meaningful advantage for either group, confirming the intervention's effectiveness and accessibility. Post-

intervention parity suggests the program effectively reduced initial gaps and improved CRC knowledge across both sexes, addressing persistent deficits in risk factors, symptoms, and screening awareness (Partyka et al., 2025).

Table 19 Difference in the Level of Knowledge after Intervention when Enhancements are Grouped by Grade Level

Sub - Variable	Mean Score		U-value	P-value	Decision	Conclusion
	GRADE 11	GRADE 12				
Anatomy and Physiology of Colon and Rectum	75.7	72.4	598	.341	Failed to Reject Ho	Not Significant
Colorectal Cancer	89.4	89.7	656	.757	Failed to Reject Ho	Not Significant
Risk Factor	93.2	90.3	624	.450	Failed to Reject Ho	Not Significant
Risk Population	83.8	83.4	675	.941	Failed to Reject Ho	Not Significant
Colorectal Cancer Screening	83.4	79.3	578	.232	Failed to Reject Ho	Not Significant
Overall	85.1	83.0	623	.527	Failed to Reject Ho	Not Significant

Shapiro-Wilk (All $p < .05$) Level of Significance = 5%

The findings show that the intervention was equally effective for Grade 11 and 12 students, with no significant differences, indicating grade level did not affect outcomes

and that the program successfully reduced CRC knowledge gaps (Partyka et al., 2025).

Table 20 Difference in the Level of Knowledge after Intervention when Enhancements are Grouped by Age

Sub - Variable	Mean Score			H-Value	P-Value	Decision	Conclusion
	16	17	18				
Anatomy of Colon and Rectum	51.3	57.9	56.3	0.653	.721	Failed to Reject Ho	Not Significant
Colorectal Cancer	71.3	72.9	75.0	0.707	.702	Failed to Reject Ho	Not Significant
Risk Factor	85.6	75.0	85.0	3.464	.177	Failed to Reject Ho	Not Significant
Risk Population	69.4	65.0	67.5	0.402	.818	Failed to Reject Ho	Not Significant
Colorectal Cancer Screening	54.4	47.9	52.5	2.399	.301	Failed to Reject Ho	Not Significant
Overall	66.4	63.7	67.3	0.273	.872	Failed to Reject Ho	Not Significant

Shapiro-Wilk (All $p < .05$) Level of Significance = 5%

The findings showed no significant differences in learning across age groups, indicating that the educational program was effective regardless of age. This aligns with the findings that was found that structured school-based health education improves knowledge and health literacy across different age groups (Strobl et al. 2020)

IV. CONCLUSION

This study reveals that the intervention was effective, as there was a statistically significant increase in knowledge from pre-intervention to post-intervention. Furthermore, the findings showed no significant differences in post-intervention knowledge when students were grouped according to age, sex, and grade level. This suggests that the intervention was equally effective across different demographic profiles, demonstrating its broad applicability within the senior high school population at canossa college of san pablo city.

Overall, the study emphasizes the importance of integrating health teaching interventions in school settings, as these programs can effectively improve awareness and promote preventive health practices, regardless of demographic differences. However, despite these positive outcomes, knowledge in Anatomy and Physiology of the Colon and Rectum remained the weakest area even after the intervention. This highlights the need for more targeted reinforcement in foundational anatomical concepts. The study further suggests that incorporating enhanced visual aids, interactive activities, and extended sessions focused on anatomy may further strengthen learning outcomes. Strengthening the use of expert input, such as lectures from colorectal surgeons, and maintaining high implementation fidelity can make future programs even more impactful in raising colorectal cancer awareness and promoting preventive health behaviors among young learners.

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