

Original Research

Effectiveness of Wish and Drive Method Education in Improving Knowledge and Participation in Cervical Cancer Screening Using Visual Inspection with Acetic Acid (VIA) among Women of Reproductive Age

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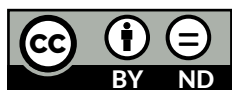
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ABSTRACT

Background: Cervical cancer remains one of the leading causes of mortality among women, particularly in developing countries, and can be detected early through Visual Inspection with Acetic Acid (VIA) screening. However, low knowledge and participation rates among women of reproductive age (WRA) remain major challenges. This study aimed to determine the effect of education using the wish and drive method on knowledge and participation in cervical cancer early detection. **Methods:** This study employed a quasi-experimental design with a pretest–posttest control group approach. A total of 60 respondents were selected using purposive sampling and divided into intervention and control groups. Data were collected using a structured questionnaire to assess knowledge and a checklist to measure participation in VIA screening. Data analysis was conducted using univariate and bivariate tests, including the Wilcoxon signed-rank test and Mann–Whitney U test. **Results:** The intervention group showed a significant increase in knowledge, with the proportion of “good” knowledge rising from 26.7% to 86.7%, while the control group experienced a decrease from 36.7% to 23.3%. Participation in VIA screening in the intervention group increased from 43.3% to 70%, compared to a slight increase in the control group from 40% to 43.3%. Statistical analysis indicated significant differences in both knowledge ($p = 0.000$) and participation ($p=0.002$) after the intervention. **Conclusions:** Education using the wish and drive method effectively improves knowledge and participation in cervical cancer early detection among WRA. This method is recommended for implementation in community-based health promotion programs to enhance screening uptake and preventive health behavior.

Keywords: Early detection of cancer; uterine cervical neoplasms; health promotion; wish and drive method; acetic acid visual inspection

1. INTRODUCTION

Cervical cancer is a non-communicable disease characterized by the growth of abnormal cells that are malignant and have the ability to spread to other parts of the body. This disease is caused by infection with the Human Papilloma Virus (HPV) and ranks fourth among the most common types of cancer affecting women worldwide. According to data

from the Global Cancer Observatory of the International Agency for Research on Cancer, cervical cancer ranks third in Indonesia with 36,964 cases per 100,000 people, while the mortality rate ranks fourth with 20,708 deaths per 100,000 people.^(1,2) It is estimated that the number of cases will continue to rise, reaching 700,000 cases with 400,000 deaths by 2030.^(2,3)

Early detection of cervical cancer can be performed using the Visual Inspection with Acetic Acid (VIA) method, which involves examining the cervix directly after applying a 3- 5% acetic acid solution. Based on diagnostic tests, the IVA examination has a sensitivity of 84%, specificity of 89%, positive predictive value of 87%, and negative predictive value of 88%, which shows better results compared to the Pap smear, which only has a sensitivity of 55%.^(4,5) In Bali Province, the cervical cancer early detection program using the IVA method has been implemented in 9 districts/cities with 120 participating community health centers, but only 49,706 people (12.4%) of the total female population aged 30-50 years have undergone the examination.⁽⁶⁾

Although the IVA method has proven to be effective and easily accessible, many women have not yet optimally utilized this screening service. This is due to various factors, including public fear, particularly among women, of undergoing examinations at hospitals due to concerns about the possibility of a cancer diagnosis.⁽⁷⁾ Avoidance of screening is also influenced by individual characteristics in the utilization of health services, particularly predisposing characteristics that include demographics, social structure, and health benefits.⁽⁸⁾

To address this issue, the WHO has initiated the Global Strategy for Cervical Cancer Elimination with the target of achieving elimination by 2030 through the 90-70-90 strategy.⁽⁷⁾ Indonesia in 2023 has developed a National Action Plan (NAP) for cervical cancer elimination, consisting of four main pillars, one of which is health promotion.^(8,9) Various educational methods can be used to increase knowledge and participation, such as through videos, films, lectures, posters, leaflets, and flipcharts.⁽⁹⁾ One effective educational method is the wish and drive method, which combines educational, counseling, and caring approaches.

Based on a preliminary study conducted on January 12, 2025, in Banjar Cengkilung, it was found that there had never been any counseling on early detection of cervical cancer using the IVA method, and 66.7% of women aged 30-49 years were completely unaware of early detection of cervical cancer using the IVA method

and had never undergone an IVA test.⁽¹⁰⁾ Previous studies have shown that education using the wish and drive method has a significant impact on knowledge, attitudes, and intentions toward the IVA test. Therefore, research on the influence of wish and drive method education on knowledge and participation in early detection of cervical cancer using the visual inspection with acetic acid method among women of childbearing age in Banjar Cengkilung, Peguyangan Kangin Village, North Denpasar, Denpasar City in 2025 is very important to conduct.

2. METHODS

2.1 Study Design

This study employed a quasi-experimental design using a pretest–posttest control group design. The design aimed to evaluate the effect of the wish and drive educational method on knowledge and participation in cervical cancer early detection using the Visual Inspection with Acetic Acid (VIA) method among women of reproductive age.

2.2 Setting and Time

The study was conducted in Peguyangan Kangin Village, North Denpasar District, Denpasar City, Indonesia. Data collection took place over a period of four weeks, from March to April 2025.

2.3 Population and Sample

The population in this study consisted of all women of reproductive age (WRA) residing in Peguyangan Kangin Village, North Denpasar District, Denpasar City. Based on local data, the total population of WRA in the selected study area (Banjar Cengkilung) was 84 individuals.

The sample size in this study was 60 respondents, who were divided equally into two groups: 30 respondents in the intervention group and 30 respondents in the control group. Sampling was conducted using a purposive sampling, in which respondents were selected based on predetermined inclusion and exclusion criteria. This technique was chosen to ensure that participants met the characteristics relevant to the study objectives.

The inclusion criteria included women of reproductive age who were willing to participate, able to communicate effectively, and had not previously received education using the wish and drive method.

Meanwhile, respondents who were not present during the data collection process or did not complete the study procedures were excluded. The determination of the sample size was based on the feasibility of the study and the availability of eligible respondents in the research setting, while maintaining balance between the intervention and control groups to allow for comparison.

2.4 Intervention

The intervention group received health education using the wish and drive method, which combines education, counseling, and a caring approach to enhance motivation and awareness regarding cervical cancer screening. The control group did not receive this intervention during the study period.

2.5 Variables

This study involved two main variables: the independent variable and the dependent variables. The independent variable in this study was health education using the wish and drive method. This intervention consisted of structured educational activities combining information delivery, counseling, and a caring approach aimed at increasing motivation and awareness regarding cervical cancer early detection.

The dependent variables were: Knowledge of cervical cancer early detection, defined as the respondent's level of understanding regarding cervical cancer, its risk factors, prevention, and the VIA screening method. This variable was measured using a structured questionnaire and categorized into three levels: good, sufficient, and poor based on the scoring results. Participation in VIA screening, defined as the respondent's involvement in undergoing cervical cancer screening using the Visual Inspection with Acetic Acid (VIA) method. This variable was measured using a checklist and categorized dichotomously as "participated" or "not participated."

Operationally, knowledge was assessed through respondents' answers to questionnaire items, while participation was determined based on whether the respondent had undergone VIA examination during the study period.

2.6 Data Collection

Data were collected using primary data sources through structured instruments administered to respondents in both intervention and control groups. The

data collection process consisted of two main stages: pretest and post-test.

At the initial stage (pretest), respondents in both groups were asked to complete a structured questionnaire designed to assess their baseline knowledge regarding cervical cancer and early detection using the Visual Inspection with Acetic Acid (VIA) method. In addition, respondents' participation in VIA screening was recorded using a checklist form.

Following the pretest, the intervention group received health education using the wish and drive method. This educational intervention combined information delivery, counseling, and a caring approach aimed at increasing motivation and awareness of cervical cancer screening. The sessions were conducted according to a structured education plan. Meanwhile, the control group did not receive any educational intervention during the study period.

After the intervention period, a post-test was conducted in both groups using the same questionnaire and checklist instruments to measure changes in knowledge and participation. The use of identical instruments in both pretest and post-test ensured consistency and comparability of the data.

The knowledge questionnaire consisted of several items related to cervical cancer, risk factors, prevention, and VIA screening procedures. Respondents' answers were scored and categorized into levels of knowledge (good, sufficient, and poor) based on predetermined scoring criteria. Participation in VIA screening was measured dichotomously, categorized as "participated" if the respondent had undergone VIA screening and "not participated" if otherwise.

2.7 Data Analysis

Data were analyzed using both descriptive and inferential statistics. Prior to analysis, all data were checked for completeness, coded, and entered into a statistical software program for processing using IBM SPSS Statistics version 26.0

Descriptive (univariate) analysis was conducted to summarize respondent characteristics, as well as to describe the distribution of knowledge levels and participation in VIA screening in both intervention and control groups. The results were presented in the form of frequencies, percentages, means, and standard deviations where appropriate.

Inferential (bivariate) analysis was performed to assess differences in knowledge and participation before

and after the intervention, as well as differences between the intervention and control groups. Given the nature of the data and study design, non-parametric statistical tests were applied. The Wilcoxon signed-rank test was used to analyze differences in pretest and post-test scores within each group, while the Mann–Whitney U test was used to compare differences between the intervention and control groups. Statistical significance was determined at a p -value of < 0.05 with a 95% confidence level.

2.8 Ethical Considerations

The ethics for this research were obtained from the Research Ethics Committee of the Denpasar Ministry of Health Polytechnic with letter number: DP.04.02/F.XXXII.25/658/2025.

Table 1. Frequency distribution of characteristics of respondents (n=30)

Characteristics	Intervention		Control	
	Frequency	Percentage	Frequency	Percentage
Age				
≤ 35 years	9	30	6	20
≥ 36 years	21	70	24	80
Education				
Primary school	1	3.4	0	0
Junior high school	10	33.3	5	16.7
Senior high school	13	43.3	21	70.0
Collage	6	20.0	4	13.3
Employment status				
Working (civil servant, private employee, merchant)	18	60	27	90
Not working (housewife)	12	40	3	10
Number of parities				
Primipara 1 child	3	10	1	3.3
Multipara ≥ 2 children	27	90	29	96.7
Total	30	100	30	100

education. Regarding employment status, the majority of respondents were working, particularly in the control group (90%), compared to 60% in the intervention group. Based on parity, most respondents in both groups were multiparous (≥ 2 children), comprising 90% in the intervention group and 96.7% in the control group. Overall, the characteristics of respondents between the two groups were relatively comparable, although slight differences were observed in education level and employment status

3.2. Knowledge Changes After Wish and Drive Education in Both Groups

Table 2 presents the distribution of respondents'

3. RESULTS

3.1 Data Characteristics of Respondents

The respondents in this study were Women of Childbearing Age (WCA) who met the inclusion and exclusion criteria, totaling 60 participants, consisting of 30 in the intervention group and 30 in the control group, as shown in Table 1 below.

Table 1 shows that the majority of respondents in both groups were aged ≥ 36 years, accounting for 70% in the intervention group and 80% in the control group. In terms of education level, most respondents had completed senior high school, with 43.3% in the intervention group and a higher proportion of 70.0% in the control group. Only a small proportion had primary

knowledge levels before and after the intervention in both groups. In the intervention group, there was a substantial increase in the proportion of respondents with good knowledge after receiving education using the wish and drive method, accompanied by a decrease in respondents with sufficient and poor knowledge. This indicates that the intervention was effective in improving respondents' understanding of cervical cancer and VIA screening. In contrast, the control group did not show a meaningful improvement. The proportion of respondents with good knowledge tended to decrease, while those with lower knowledge levels did not show significant positive changes.

Table 2. Frequency distribution of respondents based on knowledge before and after education on the wish and drive method in the intervention group and control group (n=30)

Knowledge category	Intervention group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Good	8	26.7	26	86.7	11	36.7	7	23.3
Fair	19	63.3	4	13.3	17	56.7	19	63.3
Poor	3	10.0	0	0	2	6.6	4	13.4
Total	30	100	30	100	30	100	30	100

3.3 Changes in IVA Screening Participation Before and After Wish and Drive Education

Based on Table 3, it can be seen that there was a more pronounced increase in participation in cervical cancer early detection (VIA) in the intervention group compared to the control group. In the intervention group, the proportion of respondents who had undergone VIA screening increased from 43.3% to 70%, indicating a substantial behavioral change after receiving education

using the wish and drive method. The number of respondents who had never undergone screening also decreased considerably, from 56.7% to 30%, suggesting that the educational intervention effectively encouraged participation. In contrast, the control group showed only a minimal increase, from 40% to 43.3%. This change was relatively small and did not reflect a meaningful behavioral shift. The proportion of respondents who had never undergone screening also showed only a slight decrease.

Table 3. Frequency Distribution of Respondents Based on Participation Before and After Being Given Education on the Wish and Drive Method in the Intervention Group and Control Group (n=30)

Participation category	Intervention group				Control group			
	Pre-test		Post-test		Pre-test		Post-test	
	(f)	(%)	(f)	(%)	(f)	(%)	(f)	(%)
Ever checked	13	43.3	21	70	12	40	13	43.3
Never checked	17	56.7	9	30	18	60	17	56.7
Total	30	100	30	100	30	100	30	100

3.4 Effect of Wish and Drive Education on Knowledge

Table 4 presents the results of the Wilcoxon signed-rank test analyzing differences in knowledge before and after the intervention in both groups. In the intervention group, there was a significant increase in knowledge after the implementation of the wish and drive educational method, as indicated by a Z value of -4.576 and a p-value of 0.000 ($p < 0.05$). The distribution of ranks shows that 27 respondents experienced an increase in knowledge (positive ranks), no respondents showed a decrease, and 3 respondents had no change (ties). In contrast, the

control group did not show a statistically significant change in knowledge, with a Z value of -1.542 and a p-value of 0.123 ($p > 0.05$). The rank distribution indicates mixed results, with 8 respondents experiencing an increase, 14 respondents experiencing a decrease, and 8 respondents showing no change. These findings indicate that the wish and drive educational method had a significant effect on improving knowledge of cervical cancer early detection among women of reproductive age, whereas no significant improvement was observed in the control group.

Table 4. Results of the Analysis of the Effect of Wish and Drive Method Education on Knowledge of Cervical Cancer Early Detection in the Intervention Group and Control Group Before and After Intervention

Variable	n	Group	Z	Negative rank	Positive rank	Ties	p-value
Knowledge	30	Intervention	-4.576	0	27	3	0.000
Pre test and post test	30	Control	-1.542	14	8	8	0.123

3.5 Effect of Wish and Drive Education on Participation

Table 5 presents the results of the Wilcoxon signed-rank test analyzing the effect of the wish and drive educational method on participation in VIA screening before and after the intervention. In the intervention group, the analysis showed a statistically significant increase in participation after the intervention, with a Z value of -3.162 and a *p*-value of 0.002 (*p* < 0.05). The results indicated that 10 respondents experienced an increase in

participation (positive ranks), while no respondents showed a decrease, and 20 respondents remained unchanged. In contrast, the control group did not show a statistically significant change, with a Z value of -1.000 and a *p*-value of 0.317 (*p* > 0.05). Only 1 respondent showed an increase in participation, while the majority (29 respondents) showed no change. These findings indicate that the wish and drive educational method had a significant effect on improving participation in VIA screening in the intervention group, while no significant change was observed in the control group.

Table 5. Results of the Analysis of the Effect of Wish and Drive Method Education on Participation in the Intervention Group and Control Group Before and After Intervention

Variable	n	Group	Z	Negative rank	Positive rank	Ties	<i>p</i> -value
Participation	30	Intervention	-3.162	0	10	20	0.002
Pre test and post test	30	Control	-1.000	0	1	29	0.317

4. DISCUSSION

4.1 Characteristics of Respondents

Based on Table 1, the majority of respondents in both the intervention and control groups were aged ≥ 36 years, with proportions of 70% and 80%, respectively. This indicates that most participants were in the higher-risk age category for cervical cancer. Increasing age is known to be associated with a higher risk of cervical cancer due to cumulative exposure to risk factors and decreased immune response. Additionally, age influences health behavior, where older women tend to have more experience and awareness regarding reproductive health, although this does not always translate into preventive actions such as screening.⁽¹¹⁾

In terms of education level, most respondents had completed senior high school, with a higher proportion in the control group (70%) compared to the intervention group (43.3%). Education plays an important role in shaping an individual's knowledge and health behavior. Individuals with higher education levels are generally more capable of understanding health information and are more likely to participate in preventive health services, including cervical cancer screening.⁽¹²⁾ However, despite relatively adequate education levels, participation in screening remained low at baseline, indicating that knowledge alone may not be sufficient without proper motivation and intervention.

Regarding employment status, the majority of respondents in both groups were working, especially in the control group (90%) compared to the intervention

group (60%). Employment can influence access to information and health services, as working individuals may have broader social interactions and exposure to health information. However, work-related time constraints may also become a barrier to accessing screening services such as VIA.⁽¹³⁾

Based on parity, most respondents in both groups were multiparous (≥ 2 children), accounting for 90% in the intervention group and 96.7% in the control group. High parity has been identified as a risk factor for cervical cancer due to repeated cervical trauma and prolonged exposure to hormonal changes.⁽¹⁴⁾ Multiparous women are also more likely to have contact with health services during pregnancy and childbirth, which should provide opportunities for health education, including cervical cancer screening.

Overall, the characteristics of respondents between the intervention and control groups were relatively comparable, although slight differences were observed in education level and employment status. This comparability indicates that both groups had similar baseline conditions, allowing for a more valid assessment of the effect of the intervention. Similar baseline characteristics are essential in quasi-experimental studies to minimize bias and ensure that observed differences are attributable to the intervention rather than confounding factors.⁽¹⁵⁾

4.2 Knowledge of Cervical Cancer Early Detection

Based on Table 2, there was a substantial increase in the level of knowledge among respondents in the

intervention group after receiving education using the wish and drive method. The proportion of respondents with “good” knowledge increased markedly from 26.7% at pretest to 86.7% at post-test, while the proportions of “fair” and “poor” knowledge decreased significantly. In contrast, the control group did not show improvement; instead, the proportion of respondents with good knowledge decreased from 36.7% to 23.3%, while those with lower knowledge levels remained relatively unchanged or increased.

These findings indicate that the wish and drive educational method was effective in improving respondents’ knowledge regarding cervical cancer and its early detection through the VIA method. The observed improvement can be attributed to the combination of educational components, counseling, and a caring approach, which not only delivers information but also enhances motivation and engagement among participants. In contrast, the absence of intervention in the control group resulted in no meaningful improvement, suggesting that knowledge does not increase significantly without structured educational efforts.

From a theoretical perspective, these findings are consistent with health education theory, which states that knowledge is a fundamental determinant of behavior change. According to the Health Belief Model, increased knowledge enhances individuals’ perceived susceptibility and perceived benefits, thereby encouraging positive health actions.⁽¹⁶⁾ Educational interventions that are interactive and motivational in nature are more effective in improving knowledge compared to passive information delivery.⁽¹⁷⁾

Furthermore, the results of this study are supported by previous research. A study by Mohammed et al. (2025) found that structured cervical cancer education significantly improved women’s knowledge and screening uptake.⁽¹⁸⁾ Similarly, research by Chowdhury et al. (2025) highlighted that community-based education plays a crucial role in increasing awareness and understanding of cervical cancer prevention, especially in developing countries.⁽¹⁹⁾ Another study by Mariño et al. (2023) also reported that educational interventions significantly improved knowledge and awareness of HPV and cervical cancer prevention among women.⁽²⁰⁾

Therefore, the significant increase in knowledge observed in the intervention group confirms that the wish and drive method is an effective educational strategy for improving awareness and understanding of cervical

cancer early detection. This approach can be considered a valuable method for health promotion programs, particularly in increasing knowledge as a first step toward behavioral change.

4.3 Participation in VIA Screening

Based on Table 3, there was a notable increase in participation in VIA screening among respondents in the intervention group after receiving education using the wish and drive method. The proportion of respondents who had undergone VIA screening increased from 43.3% at pretest to 70% at posttest, while those who had never undergone screening decreased substantially from 56.7% to 30%. In contrast, the control group showed only a minimal increase in participation, from 40% to 43.3%, with a relatively small decrease in those who had never undergone screening.

The comparison between the two groups indicates that the improvement in participation was significantly greater in the intervention group than in the control group. This finding suggests that the wish and drive educational method was effective not only in increasing knowledge but also in translating that knowledge into actual health behavior, namely participation in cervical cancer screening. Without intervention, as seen in the control group, behavioral change tends to be minimal.

From a behavioral perspective, this result reflects a positive change in health behavior, where individuals move from awareness to action. The increase in participation demonstrates that respondents were not only informed but also motivated to take preventive measures. This aligns with the theory that effective health education should lead to behavioral change, not merely cognitive improvement.

These findings are consistent with behavior change theories such as the Knowledge–Attitude–Practice (KAP) model, which explains that increased knowledge can influence attitudes and subsequently lead to changes in behavior.⁽²¹⁾ Additionally, the Health Belief Model suggests that individuals are more likely to engage in preventive actions when they perceive the benefits of the action and feel motivated through cues to action, such as educational interventions.⁽²²⁾ The wish and drive method, which combines education, counseling, and motivation, likely acts as a strong cue to action, thereby increasing participation in VIA screening.

Furthermore, these results are supported by previous studies. A study by Seyrafi et al. (2022) found that educational interventions significantly increased

women's participation in cervical cancer screening.⁽²³⁾ Similarly, research by Wu S et al. (2023) showed that improved knowledge and awareness were associated with higher uptake of screening services.⁽²⁴⁾ Another study by Seyrafi et al. (2022) also reported that community-based education interventions were effective in increasing screening participation among women in low-resource settings.⁽²²⁾

Therefore, the findings of this study confirm that the wish and drive educational method is effective in promoting behavioral change, particularly in increasing participation in cervical cancer early detection through VIA screening. This highlights the importance of integrating motivational and counseling components into health education programs to achieve not only increased knowledge but also real behavioral outcomes.

4.4 Effect of Wish and Drive Education on Knowledge

Based on Table 4, the results of the Wilcoxon signed-rank test showed a statistically significant increase in knowledge in the intervention group after receiving education using the wish and drive method, with a p -value of 0.000 ($p < 0.05$). The distribution of ranks indicated that the majority of respondents experienced an improvement in knowledge, with no respondents showing a decrease. In contrast, the control group did not show a statistically significant change, as indicated by a p -value of 0.123 ($p > 0.05$), with mixed results in rank distribution, including both increases and decreases in knowledge levels.

These findings confirm that the wish and drive educational intervention had a significant effect on improving respondents' knowledge, whereas the absence of intervention in the control group resulted in no meaningful change. The significant result in the intervention group demonstrates that structured and interactive educational approaches are effective in enhancing understanding of cervical cancer and its early detection. Meanwhile, the non-significant result in the control group suggests that knowledge does not improve substantially without targeted educational strategies.

From a statistical perspective, the use of the Wilcoxon test indicates that there was a consistent positive shift in knowledge scores within the intervention group. This reflects the effectiveness of the intervention in producing measurable cognitive changes. In quasi-experimental studies, such significant within-group differences strengthen the causal inference that the intervention contributed to the observed improvement.⁽²⁵⁾

These findings are consistent with health education theory, which emphasizes that structured educational interventions can significantly improve knowledge outcomes. According to Bloom's taxonomy, knowledge is the foundational domain of learning that can be enhanced through systematic and well-designed educational strategies.⁽²⁶⁾ Additionally, interactive and motivational education methods, such as the wish and drive approach, are more effective than passive information delivery because they engage participants cognitively and emotionally.

Furthermore, the results of this study are supported by previous research. A study by Cham et al. (2025) reported a significant increase in knowledge following educational interventions on cervical cancer prevention.⁽²⁵⁾ Similarly, research by Wu S et al. (2024) found that targeted educational programs significantly improved women's understanding of cervical cancer screening.⁽²⁴⁾ Another study by Seyrafi et al. (2023) also demonstrated that health education interventions significantly increased knowledge levels among women regarding cervical cancer and its prevention.⁽²³⁾

Therefore, the significant findings in the intervention group highlight that the wish and drive method is an effective educational strategy for improving knowledge. This method can be considered a valuable approach in health promotion programs, particularly in increasing awareness as a critical first step toward behavioral change in cervical cancer prevention.

4.5 Effect of Wish and Drive Education on Participation

Based on Table 5, the results of the Wilcoxon signed-rank test showed a statistically significant increase in participation in VIA screening in the intervention group after receiving education using the wish and drive method, with a p -value of 0.002 ($p < 0.05$). The rank distribution indicated that a number of respondents experienced an increase in participation, while none showed a decrease. In contrast, the control group did not demonstrate a statistically significant change, with a p -value of 0.317 ($p > 0.05$), where most respondents remained unchanged and only a very small proportion showed improvement.

These findings indicate that the wish and drive educational method had a significant effect on increasing participation in cervical cancer screening, whereas the absence of intervention in the control group resulted in no meaningful behavioral change. The significant improvement observed in the intervention group

confirms that structured and motivational education can effectively translate knowledge into action.

From a behavioral perspective, this result reflects a real change in health behavior, where individuals move beyond awareness toward actual participation in preventive health services. This supports the concept that effective health education should not only improve knowledge but also facilitate behavioral change. According to the Theory of Planned Behavior, behavior is influenced by intention, which is shaped by attitudes, subjective norms, and perceived behavioral control; educational interventions can strengthen these components and encourage individuals to take action.⁽²¹⁾

Furthermore, these findings are consistent with previous studies. A study by Alyafei et al. (2026) demonstrated that health education significantly increased women's participation in cervical cancer screening programs.⁽²²⁾ Similarly, research by Zhang et al. (2022) found that targeted educational interventions improved screening uptake by addressing barriers and enhancing motivation.⁽²⁷⁾ Another study by Chowdhury et al. (2025) also reported that women who received education and counseling were more likely to participate in cervical cancer screening compared to those who did not receive such interventions.⁽¹⁹⁾

Therefore, the significant increase in participation in the intervention group indicates that the wish and drive method is effective in promoting real behavioral change. This method can be recommended as a practical and effective strategy in health promotion programs aimed at increasing participation in cervical cancer early detection, particularly in community settings.

4.6 Key Findings, Implications, and Study Limitations

Overall, this study demonstrates that education using the wish and drive method effectively improves both knowledge and participation of women of reproductive age in cervical cancer early detection through the VIA method. The intervention group showed a significant increase in knowledge levels as well as a meaningful improvement in participation compared to the control group, indicating that the intervention was successful in promoting both cognitive and behavioral changes.

These findings are consistent with previous studies. Zhang et al. (2022) reported that structured educational interventions significantly increased knowledge and uptake of cervical cancer screening among women.⁽²⁸⁾ Similarly, Vernon et al. (2024) found

that health education plays a crucial role in improving participation in screening programs by addressing barriers and enhancing awareness.⁽²⁹⁾ Furthermore, Mariño et al. (2023) highlighted that educational interventions significantly improve knowledge and preventive behaviors related to cervical cancer.⁽³⁰⁾ These studies support the present findings that education combined with motivational approaches can effectively influence both knowledge and behavior.

From a practical perspective, the results of this study have important implications for health professionals, particularly nurses and midwives, who play a key role in community health promotion. The wish and drive method can be integrated into routine health education programs at primary healthcare facilities to increase awareness and participation in cervical cancer screening. By combining education, counseling, and motivational approaches, healthcare providers can more effectively encourage women to engage in preventive health behaviors.

However, this study has several limitations. The sample size was relatively small and limited to a specific geographic area, which may affect the generalizability of the findings. Additionally, the use of non-probability sampling may introduce selection bias. Future studies are recommended to involve larger and more diverse populations, as well as longer follow-up periods to assess the sustainability of behavioral changes.

5. CONCLUSION

This study concludes that education using the wish and drive method significantly improves both knowledge and participation of women of reproductive age in cervical cancer early detection through the VIA method, as evidenced by greater improvements in the intervention group compared to the control group. Therefore, this method is recommended to be implemented by health professionals, particularly nurses and midwives, as part of routine health promotion programs, while future research is suggested to involve larger samples and broader settings to enhance the generalizability and effectiveness of this educational approach.

Ethical Approval

The ethics for this research were obtained from the Research Ethics Committee of the Denpasar Ministry of Health Polytechnic with letter number: DP.04.02/F.XXXII.25/658/2025.

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Competing Interests

All the authors declare that there are no conflicts of interest.

Funding Information

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Underlying Data

Derived data supporting the findings of this study are available from the corresponding author on request.

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