

Original Article

Audiovisual health education and changes in ovarian cancer knowledge, attitudes, and observed skills in two women of reproductive age: A two-case descriptive study

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Abstract

Background: In 2022, ovarian cancer accounted for an estimated 324,603 new cases and 206,956 deaths globally, including 15,130 new cases in Indonesia. Reliable symptom awareness is relevant to primary care, but educational outcomes should not be confused with cancer screening.

Objective: To describe changes in ovarian cancer knowledge, attitudes, and recorded psychomotor scores among two community-dwelling women following a brief, home-based audiovisual nursing education sequence.

Methods: This uncontrolled two-case descriptive nursing education study involved women aged 33 and 38 years in Tanjung Baru Village, Ogan Komering Ulu, Indonesia, during a January–June 2026 study period. Each completed six home-based meetings comprising baseline assessment, four education-focused meetings using video, booklet, and discussion, and final assessment. Knowledge was assessed with a 20-item questionnaire before and at the final meeting; attitude was recorded using a four-category response scale, and psychomotor outcomes were reported as checklist percentages. Session lengths and calendar dates were not documented. Descriptive, case-level analysis was informed by relevant CARE reporting items and TiDier intervention-description principles; no comparison group was included.

Results: Knowledge scores increased from 7/20 (35%) to 18/20 (90%) in Case 1 and from 8/20 (40%) to 19/20 (95%) in Case 2. Attitude percentages increased from 53% to 65% and from 52% to 78%, respectively. Reported psychomotor percentages changed from 35% to 90% and from 40% to 95%, exactly mirroring knowledge percentages. Both women completed six visits. No delayed follow-up, validated instrument properties, or item-level psychomotor records were available.

Conclusion: The education sequence was followed by higher recorded scores in these two cases; the data do not establish a causal effect, long-term retention, or improved screening or health behavior. Future evaluations require validated measures, reproducible materials, and longer-term comparison.

Background

Ovarian cancer poses a substantial global and Indonesian cancer burden. The Global Cancer Observatory estimated 324,603 incident ovarian cancers and 206,956 deaths worldwide in 2022; in Indonesia, 15,130 new ovarian cancer cases were estimated, ranking third among cancers newly diagnosed in women (International Agency for Research on Cancer [IARC], 2024a, 2024b). Although ovarian cancer can occur in younger adults, risk and incidence generally rise with age. Therefore, the present recruitment of two women aged 33 and 38 years is best justified by a primary-care education opportunity rather than by treating reproductive-age women as the group with the highest disease incidence (Huang et al., 2022; Sung et al., 2021; World Health Organization, 2024).

Ovarian cancer symptoms such as persistent abdominal distension, early satiety, pelvic or abdominal pain, and urinary frequency are nonspecific; uncertainties about these symptoms

and family-history risk can delay appropriate clinical consultation (Radu et al., 2023; Maryam et al., 2022; National Institute for Health and Care Excellence [NICE], 2026). Symptom awareness, clinical assessment, prevention, and population screening are distinct concepts. Screening asymptomatic, average-risk women for ovarian cancer is not recommended because available strategies have not shown mortality benefit and may cause harm through false-positive findings (US Preventive Services Task Force [USPSTF], 2018; Menon et al., 2021). Self-palpation, checking waist circumference or body weight, reproductive hygiene practices, and mnemonic exercises are not validated ovarian cancer screening procedures. Appropriate education should instead discuss persistent symptoms, risk-relevant family history, and when to seek professional evaluation.

Surveys from Palestine, Iran, Turkey, Saudi Arabia, India, and other settings have described variable public understanding of ovarian cancer symptoms and risk factors (Elshami et al., 2022; Maryam et

al., 2022; Ugurlu et al., 2024; Hayta et al., 2024; Khuwaja et al., 2025; Nandhini & Shanmugarajan, 2022). Differences in awareness also track public communication exposure, health literacy, age, and social context (Fonnes et al., 2021; Pham et al., 2021; Ryman et al., 2024; Aksoy et al., 2025; Evgin & Şahin, 2022). General evidence from cancer and community nursing emphasizes adapting health information to the learner rather than presuming that generic reproductive-health messages translate to ovarian cancer-specific understanding (Özcan & Demir, 2021; Karakut & Bucak, 2021; Şimşek, 2022).

Video may make unfamiliar anatomy and symptom terminology easier to discuss and repeat, particularly when accompanied by dialogue and a printed aid. However, educational results from breast cancer awareness, cervical screening promotion, or maternal and child health education cannot be treated as direct evidence that audiovisual education improves ovarian cancer outcomes (Abdul Rahman et al., 2023; Saputra et al., 2024; Erlinda Dwi Puspita & Deli Lilia, 2025; Nopitasari et al., 2024; Angraeni et al., 2025). Existing ovarian awareness research mostly describes knowledge or correlates at one time; it gives less detail about the individual nursing-assessment sequence and immediate response to home-based audiovisual teaching among participants initially unfamiliar with ovarian cancer (Akkour et al., 2022; Radu et al., 2023).

The present two-case account provides a narrowly bounded description of nursing assessment, education contacts, and measured learning outcomes in a village primary-care context; it does not aim to estimate population effectiveness. Specifically, it describes the two women's initial knowledge-related nursing needs, the recorded educational sequence, their individual knowledge, attitude and psychomotor percentage changes, and reporting gaps that should inform a more rigorous future evaluation.

Methods

Study Design

A two-case descriptive nursing care and education study was conducted without randomization, a concurrent comparison group, or causal-effect testing. The unit of analysis was each participant's nursing assessment and repeated education record. Because these were community education cases rather than reports of a diagnosed ovarian neoplasm, selected items from the CAsE REport

(CARE) guidance informed individualized reporting, rather than an assertion of full CARE compliance (Gagnier et al., 2013). The Template for Intervention Description and Replication (TIDieR) guided transparent description of the educational sequence and its missing elements (Hoffmann et al., 2014).

Setting, Study Period, and Recruitment

The setting was Tanjung Baru Village, Baturaja Timur District, Ogan Komering Ulu Regency, within the service area of UPTD Puskesmas Tanjung Baru, South Sumatra, Indonesia. January–June 2026 was the overall study period, encompassing preparation, recruitment, assessments, education, and write-up; individual visit dates and the interval between visits were not retained in the available report. The researcher identified potential participants in the primary-care catchment area and purposively selected two women according to the original inclusion criteria: age 15–49 years, inadequate initial ovarian cancer knowledge, ability to communicate and use the audiovisual material, and willingness to provide informed participation consent. Severe illness or withdrawal were exclusion criteria. The original report does not specify the recruitment denominator, numbers approached or declining, a sampling registry, or any prior relationship with participants; a recruitment flow cannot therefore be reconstructed. The two included women were aged 33 and 38 years, and both completed the recorded meetings.

Nursing Assessment and Diagnostic Terminology

The original nursing record used the term “knowledge deficit” related to limited information exposure. Supporting findings were no previous structured ovarian cancer education, inability to explain basic disease concepts or warning symptoms, and baseline scores of 35% and 40%. No standard nursing code or edition was reported in the source record, so retrospective assignment of an SDKI or NANDA-I code as though it had been applied during care would be inaccurate. The terminology is conceptually consistent with the knowledge-focused diagnoses discussed in the NANDA-I classification, but this crosswalk is interpretive and not evidence of original coding (Herdman et al., 2024). Educational goals evident in the plan were improved verbal explanation of the disease, warning symptoms, risk factors, and appropriate professional help-seeking. No

numerical diagnostic-resolution threshold was prespecified.

Measures and Scoring

The ovarian cancer knowledge questionnaire contained 20 questions covering disease meaning, risk factors, warning symptoms, general health information, and when to seek assessment. Correct and incorrect responses were assigned 1 and 0, respectively; total percent correct was $(\text{correct answers}/20) \times 100$. The source report classified percentages as poor (<56%), moderate (56%–75%), and good (76%–100%). These are source-defined descriptive categories, not demonstrated validated cut-offs. The origin, language-development process, permission, psychometric validity, and reliability of the knowledge questionnaire were not reported.

Attitude was recorded using an instrument described as four-point Likert responses (strongly agree = 4, agree = 3, disagree = 2, strongly disagree = 1). The original report gave only resulting attitude percentages; the number of statements, any reverse-keyed items, possible summed-score range, percentage denominator, and validated thresholds were not provided. Consequently, attitude results are reproduced as reported percentages without reconstructing missing scoring details or assigning attitude categories.

A psychomotor observation checklist was reported in the original outcomes table as comprising 20 items, with percentage values and end-point descriptions of performance. Item wording, item weights, scoring instructions, assessor standardization, competence criterion, and inter-rater reliability were absent. The psychomotor scores exactly match the knowledge percentages in both cases at both time points. This numerical pattern cannot be verified as independently measured without source-level item data; the values are presented transparently, but should not be interpreted as validated clinical competency or screening ability. Attention, questions, and teach-back were also described narratively but were not scored with a documented validated scale.

Educational Intervention and Procedures

The source described six home-based meetings: Meeting 1 for consent, readiness and baseline measurement; Meetings 2–5 for education; and Meeting 6 for final measurement and

reinforcement. Education was delivered by the researcher using a smartphone-displayed ovarian cancer video, a booklet, spoken explanation, questions and answers, and participant restatement of key messages. The educational themes included ovarian anatomy, broad disease concepts, family-history risk, persistent symptom patterns, healthy-lifestyle discussion, and seeking professional review when symptoms persisted. The source did not identify the video title, developer, file, language, runtime, version, educational model, booklet length or publisher, visit duration, visit spacing, modifications, or formal fidelity checks. These missing elements prevent full independent replication; no details were invented to fill them.

The original fifth meeting also included reproductive personal hygiene, a “10-finger movement,” abdominal palpation, waistline observation, and weight checking. Those activities are retained here only as a factual description of what the study report says was taught or demonstrated. They have no established role as ovarian cancer screening or self-detection tests and cannot justify a claim that participants learned a validated cancer-detection skill (USPSTF, 2018; NICE, 2026). For clinical translation, the defensible educational message is to recognize persistent or progressive symptoms, discuss meaningful family history with a clinician, and seek assessment—not to self-screen through abdominal examination or body measurements.

The same knowledge instrument was described as being administered before the teaching sequence and again during the last visit. Teaching was followed by discussion and repetition of key concepts, but whether participants saw specific answer keys is unrecorded. No alternate questionnaire form, masking of the assessor, or strategy for managing practice and recall effects was documented. The report does not establish whether the final assessment followed immediately after reinforcement or after a delay within Meeting 6; no later retention assessment was reported. The attitude and psychomotor data were described at baseline and final review, although instrument-administration timestamps were not given.

Intervention Timeline

Table 1 shows the documented visit order for both cases. The table presents visit sequence—not

actual dates—because case-level dates and inter-visit intervals were not supplied. The same planned sequence applied to both cases; individual observations are provided in the Results.

Table 1. Source-reported chronology of six meetings. Session

Visit	Documented activity	Case 1 / Case 2 timing
1	Eligibility/consent; nursing interview; baseline knowledge and initial assessment	First recorded contact; calendar dates unavailable
2	Video and booklet on ovarian cancer; location of ovaries and disease concepts	After baseline; exact interval unreported
3	Risk-related information and family-history discussion	Sequential education visit; date unreported
4	Warning symptoms and indications for professional consultation	Sequential education visit; date unreported
5	Lifestyle messages and reported self-monitoring demonstrations	Sequential education visit; date unreported
6	Knowledge post-test, reported observational checklist, verbal reinforcement	Final recorded contact; no subsequent follow-up recorded

Table 1 showed session-specific durations, actual dates, and timing differences between the two women cannot be reconstructed.

Data Analysis

The analysis was descriptive and case-specific. Knowledge is reported as numbers correct of 20 and percentages; attitude and psychomotor values are reported only in their available original percentage format. Percentage-point changes are mathematical differences between source-reported percentages, not inferential statistics. No significance testing, effect size, confidence interval, generalized rate, or attribution of causality was justified for two uncontrolled observations. Narrative notes were summarized according to documented questions and follow-up statements rather than coded as a formal qualitative study.

Ethics, Consent, and Confidentiality

The original report states that ethical approval was granted by the Health Research Ethics Committee of the Health Polytechnic of the Ministry of Health Palembang, Indonesia (DP.04.03/F/XXXII/10/3003/2026). It reports written informed consent for study participation, voluntary participation, withdrawal rights, and use of participant codes. Separate consent for publication of individual case information was not documented. The original report also did not record the data-storage medium, access authorization, retention period, or deletion arrangement; these safeguards therefore cannot be represented as implemented. The presentation limits potentially identifying demographic combinations and omits nonessential ethnicity information because these are two participants from a named village

Results

Case 1: Baseline Needs, Educational Response, and Recorded Outcomes

Case 1 was a 33-year-old housewife with junior-high-school education and no previous structured ovarian cancer education. At baseline she was unable to define ovarian cancer or explain risk factors; knowledge was 7/20 (35%). Her expressed early question was why ovarian cancer is sometimes described as a “silent killer,” indicating uncertainty about the meaning of nonspecific symptoms. She attended all six home meetings, received video and booklet teaching, and took part in question-and-answer discussions. After symptom-related teaching, she stated that persistent bloating or early satiety should prompt consultation at a health facility. Her final knowledge result was 18/20 (90%); attitude changed from 53% to 65%, and reported psychomotor percentage changed from 35% to 90%. The original narrative described a demonstration of abdominal checking, waistline observation, and weight monitoring; these are recorded historical activities, not validated ovarian cancer screening skills. Session-by-session formal scores, later behavior, clinical outcomes, and adverse-event monitoring data were not supplied.

Case 2: Baseline Needs, Educational Response, and Recorded Outcomes

Case 2 was a 38-year-old housewife with senior-high-school education and no prior structured ovarian cancer education. She could not initially explain key risk factors or warning signs and scored 8/20 (40%) on baseline knowledge. Her reported early question concerned whether ovarian cancer is contagious. During the sequential video- and booklet-supported meetings she asked questions and later expressed greater confidence about interpreting health information. At the final meeting she reported less anxiety and willingness to share what she learned with relatives or neighbors; these were narrative statements, not validated anxiety or dissemination outcomes. Her final knowledge

score was 19/20 (95%); attitude changed from 52% to 78%, and the reported psychomotor percentage changed from 40% to 95%. She completed all six meetings. Detailed skill-item data, standardized competence assessment, documentation of adverse events, and delayed follow-up were absent.

Individual Outcome Comparison

Table 2 separates numeric measurements from narrative nursing observations. The knowledge counts are the directly reproducible quantitative measure. No individual was recorded as having ovarian cancer, and none of the outcomes measures cancer incidence or a screening result.

Measure	Case 1 pre	Case 1 post	Change	Case 2 pre	Case 2 post	Change
Knowledge correct /20	7	18	+11 items	8	19	+11 items
Knowledge (%)	35	90	+55 pp	40	95	+55 pp
Attitude (%)	53	65	+12 pp	52	78	+26 pp
Psychomotor score, reported (%)	35	90	+55 pp	40	95	+55 pp

Table 2 showed the original knowledge categories were poor (<56%), moderate (56%–75%), good (76%–100%); these cut-offs lack documented validation. Attitude-score denominators and psychomotor-item scoring rules were not reported. The psychomotor and knowledge percentages are identical at all reported time points and cannot be independently reconciled

from available item records. Table 3 showed statements about feelings, intention, and engagement originated in the source case narratives; direct verbatim quotations, per-session scored observations, systematic acceptability ratings, and independent assessor judgments were not documented.

Table 3. Narrative nursing observations

Case	Baseline concern	Documented participant response	Nursing interpretation / bounds
1	Did not understand meaning or risk; asked about the “silent killer” description	Explained persistent bloating/early satiety as reasons to consult; completed six meetings	Verbal understanding increased; no measured clinical help-seeking or long-term behavior
2	Asked whether ovarian cancer was contagious; could not explain warning signs	Reported less anxiety and willingness to share information; completed six meetings	Immediate self-report and recall, not validated anxiety reduction or behavior change

Discussion

The main observation is a higher score at final assessment than at baseline in both cases after a six-contact nursing education sequence. Each woman answered 11 more of 20 knowledge items correctly, while recorded attitude and psychomotor percentages also rose. These are descriptive within-person differences, not

estimates of treatment effect. As the two women had distinct starting misconceptions, individual nursing questioning may have been useful for tailoring explanations, but the record cannot disentangle the contribution of video, booklet, discussion, repetition, or participant motivation.

An audiovisual explanation may improve short-term recall by pairing unfamiliar concepts with

images and discussion; additional face-to-face dialogue may help learners correct a specific misconception and restate warning signs. The observed score changes are consistent with this educational rationale but do not prove it. Direct comparisons with disease-specific audiovisual trials are not possible because the source did not document validated scales, matched comparators, or equivalent doses. Studies of ovarian cancer awareness identify information gaps, while breast, cervical and general cancer education literature offers only indirect support for communication formats (Elshami et al., 2022; Radu et al., 2023; Evgin & Şahin, 2022; Saputra et al., 2024; Pham et al., 2021). These bodies of evidence cannot establish the effect of the present intervention.

Several alternative explanations are plausible. The knowledge test was repeated, and participants discussed test-relevant concepts during the intervention; recall, rehearsal, and familiarity with the test may have contributed to the +55-percentage-point changes. Booklet use was concurrent with video education, so video-specific benefit cannot be isolated. The researcher delivered education, observed engagement, and assessed outcomes without reported blinding, leaving room for social-desirability and observer-expectancy effects. Regression to the mean and ordinary short-term learning from repeated attention cannot be ruled out. Furthermore, the lack of delayed testing means neither retention nor actual clinical consultation behaviors were established (Aisyah et al 2026 & Oktavia et al 2025).

The psychomotor results require particular restraint. All four reported psychomotor percentages are identical to knowledge percentages, yet their tools were described as distinct. This pattern could represent a scoring convention, shared denominator, data transcription, or chance; the original item-level files are required to distinguish among these explanations. It would be methodologically inappropriate to label the nursing diagnosis “resolved” or declare validated competency from those percentages when neither a prespecified decision rule nor an independently auditable checklist is available (Siahaan et al, 2026; Simamora et al 2026; Siregar, 2026).

Clinically safe educational messaging is as important as measured recall. Persistent or

progressively frequent abdominal distension, early satiety, pelvic discomfort, or urinary symptoms warrant discussion with a qualified clinician, and risk associated with strong family history may prompt genetic risk assessment where indicated (NICE, 2026; Whelan et al., 2022). Such symptom-based advice does not mean that ordinary bodily sensations diagnose cancer. Major trials and guideline reviews do not support population screening of asymptomatic average-risk women with CA-125 or transvaginal ultrasonography (Menon et al., 2021; USPSTF, 2018). Abdominal palpation, waist measurements, body-weight checks, and reproductive hygiene are not ovarian cancer screening tools; future teaching materials should explicitly avoid presenting them as methods for detecting ovarian cancer. Broader healthy living messages can be part of general health promotion but should not be represented as a proven primary preventive strategy for ovarian cancer (Choi & Hua, 2021; Marino et al., 2024; Ali et al., 2023).

The two cases also highlight the distinction between feasibility, acceptability, and effectiveness. Completion of all scheduled contacts supports only the feasibility of conducting this sequence with these two women. Active questions and reported willingness to share information are anecdotal indicators of engagement, not formal acceptability measurements. Higher immediate knowledge percentages constitute measured learning outcomes; there is no evidence here about reduced cancer risk, improved diagnostic timeliness, sustained behavior change, or comparative effectiveness. The nursing contribution is a description of person-specific communication needs and a feasible sequence to be evaluated, rather than a ready-to-implement screening program.

The wider nursing literature examines diverse interventions—from ovarian cancer symptom-management case reports and communication about end-of-life care to chronic disease family support, anxiety-management exercise, breastfeeding care and cancer wound management (KK et al., 2026; Mensah et al., 2026; KK et al., 2024; Fadhilah & Pratama, 2026; Rosa et al., 2025; Siahaan et al., 2026). These distinct patient populations and outcomes do not validate the ovarian cancer education instrument or establish its effect. Similarly, research on cancer beliefs, gynecologic awareness and women’s

lifestyle behaviors provides context for designing culturally suitable communication rather than direct proof of this particular educational package (Akkour et al., 2022; Isik et al., 2025; Özcan & Demir, 2021).

Strengths and Limitations

An advantage of this descriptive report is that it preserves case-level baseline misconceptions, a documented order of six contacts, numeric knowledge item counts and participant-specific narrative responses in a village nursing context. Its limitations are substantial: only two purposively selected women; no recruitment denominator or participant-level calendar dates; unreported education duration and material provenance; no control group or blinded assessment; repeated use of the same knowledge test; absence of measurement validation and source item-level records; unclear attitude denominator and psychomotor scoring; identical knowledge and psychomotor percentages; no formal adverse-event surveillance, acceptability instrument, or delayed follow-up; and incomplete reporting of consent for publication and data governance. These limitations restrict both internal interpretability and transferability; they cannot be repaired by editorial reconstruction.

Implications for Community Nursing and Research

Nurses can use these cases to recognize baseline misconceptions and frame discussions around persistent symptoms, family-history concerns, and appropriate referral rather than self-diagnosis. For any future standardized education program, a clinically reviewed video and booklet should be archived with their language, runtime, educational content and version; symptom-awareness instructions must clearly state that body checking is not ovarian cancer screening. Subsequent evaluations should document recruitment, visit timing, consent for publication, adverse events, independent or standardized assessment, validated knowledge and attitude measures, detailed psychomotor criteria if skills are genuinely required, and follow-up beyond immediate recall. Comparative designs are needed before the intervention's effectiveness can be inferred.

Conclusion and Recommendation

In two community-dwelling women aged 33 and 38 years, a six-meeting audiovisual-supported

nursing education sequence was followed by increased recorded knowledge and attitude scores; reported psychomotor percentages also increased but cannot be independently verified against item-level data. This uncontrolled case description is relevant to tailoring primary-care communication, not to proving an educational effect, cancer prevention, or screening benefit. Larger rigorously documented evaluations with clinically accurate materials and delayed follow-up are needed.

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The authors declare no competing interests.

Declaration on the Use of AI

No AI tools were used in the preparation of this manuscript.

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