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USE, QUALITY, AND EFFECT OF PELVIC EXAMINATION IN PRIMARY CARE FOR DETECTION OF GYNAECOLOGICAL CANCER: SYSTEMATIC REVIEW

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Abstract

Clinical examination has always been seen as a vital skill for physicians. Pelvic examination (PE) includes of vulvar inspection, bimanual examination of the pelvic organs, and speculum examination of the cervix. There is evidence that the absence of PE is connected with diagnostic delay, despite the fact that the intimacies of PE make it a difficult examination for both clinicians and patients. Standards for fast referral of patients with a suspicion of cancer are one of several initiatives to reduce patient wait times and improve outcomes. Various groups created these regulations. Pelvic exams have been part of well-woman visits since ancient times. Many women and gynecologic care professionals use this session as an opportunity to discuss sexual and reproductive health issues with their patients. Hence, numerous ladies seize this opportunity. A pelvic examination is typically performed on asymptomatic women as a screening tool for gynecologic cancer, infection, and asymptomatic pelvic inflammatory disease; despite evidence to the contrary, some obstetrician–gynecologists and patients believe it is crucial for detecting subclinical disease. As a screening technique for gynecologic cancer, infection, and asymptomatic gynecologic malignancy, a pelvic examination is frequently conducted on asymptomatic women. The pelvic examination may include an appraisal of the patient's external genitalia, an examination of the patient's internal genitalia using a speculum, a rectovaginal examination, and bimanual palpation. Depending on your preferences, you can do these components individually or in combination. According to the United States Preventative Services Task Force, there are insufficient data to evaluate whether a pelvic exam accurately diagnoses a variety of gynecologic diseases. There is little data to support the idea that PE aids in the detection of gynecological cancer. PE is frequently not performed on women with gynecological cancer symptoms, and evidence that it may result in an earlier stage of diagnosis is limited. Further investigation is required.

Keyword: *Detection; Malignancy; Pelvic Examination; Screening*

INTRODUCTION

Survivability rates for ovarian, endometrial, cervical, and vaginal cancer are all lower than in other developed nations despite recent advances in treatment. Over 21,000 women are diagnosed with gynecological cancer every year, making it one of the most common types of cancer in women. An significant factor in a patient's diagnostic path, the primary care interval is the time between when a patient presents with symptoms suggestive of cancer and when the general practitioner sends the patient to secondary care; decreasing this interval may improve cancer outcomes.[1–3]

Primary care providers can investigate "may have cancer" patients using serum markers and imaging. These instruments may multiply and improve as technology advances. False positives can lead to unnecessary investigations, referrals, and patient distress, so they should be used cautiously. The "2-week wait pathway" for suspected cancer cases in the UK allows patients to be assessed rapidly and improves patient outcomes. Many women with gynecological malignancies are still referred through normal channels.[4]

Many groups have produced guidelines for the immediate referral of patients with a suspicion of cancer as one of several initiatives to reduce diagnostic delay and enhance patient outcomes.[5] When symptomatic gynecological cancer is diagnosed at an earlier stage, it is anticipated that patient outcomes, namely survival rates, will improve. Primary care practitioners are required to be aware of the warning signs and symptoms of gynecological cancer and to make evidence-based decisions on additional evaluation and referral. Primary care physicians and nurses play a crucial part in this process.[4,6]

This may be challenging due to the fact that many of the symptoms of gynecological cancers are unclear and are more likely to be caused by benign illness than by cancer. This makes it difficult to identify the underlying cause of the symptoms. Due to the fact that primary care is generally the initial point of contact for patients, physicians in this setting encounter cancer patients at an earlier stage, when their symptoms may still be milder than those in tertiary care. This is because primary care is often patients' initial point of contact.[7]

It is normal practice to perform a pelvic exam in order to diagnose and treat a wide range of disorders that may affect a woman's health. Even though the pelvic examination is a standard component of the physical exam, it is unclear if screening pelvic exams performed on asymptomatic women have a significant impact on the morbidity or mortality rates associated with illness. The United States Preventative Services Task Force (USPSTF) develops recommendations about the efficacy of specific preventive care treatments for individuals devoid of obvious associated symptoms.[6,8] This article investigates the use, quality, and effects of pelvic examinations in primary care settings for the identification of gynecological cancers.

METHODS

Protocol

This research was carried out in compliance with the standards established by the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) 2020 initiative. The rules that were put into effect were constructed with these components as their foundation.

Eligibility Criteria

The purpose of this literature review on the accuracy of "pelvic examination"; "gynaecological cancer"; and “primary care” was to examine the available research on these two areas. These are the main issues raised in the research that is currently being conducted. In order for your work to be reviewed, you must demonstrate that you can meet the following conditions: 1) Articles must be written in English and highlight the usage, quality, and impact of "pelvic examination" and "gynaecological cancer" in primary care to be eligible for publication. 2) For this evaluation, articles published after 2017 but before the period of this systematic review were considered. The following types of writing will not be considered for publication in the anthology: original research does not include editorials, submissions without a DOI, reviews of previously published articles, or entries that are significantly similar to those that have already been published in the journal.

Search Strategy

The search for studies to be included in the systematic review was carried out from February, 27th 2023 using the PubMed and SagePub databases by inputting the words: "pelvic examination" and "gynaecological cancer". Where *("gynecological examination"[MeSH Terms] OR ("gynecological"[All Fields] AND "examination"[All Fields]) OR "gynecological examination"[All Fields] OR ("pelvic"[All Fields] AND "examination"[All Fields]) OR "pelvic examination"[All Fields]) AND ("gynaecologic"[All Fields] OR "gynecologic"[All Fields] OR "gynecologically"[All Fields] OR "gynecology"[MeSH Terms] OR "gynecology"[All Fields] OR "gynaecological"[All Fields] OR "gynecological"[All Fields]) AND ("cancer s"[All Fields] OR "cancerated"[All Fields] OR "canceration"[All Fields] OR "cancerization"[All Fields] OR "cancerized"[All Fields] OR "cancerous"[All Fields] OR "neoplasms"[MeSH Terms] OR "neoplasms"[All Fields] OR "cancer"[All Fields] OR "cancers"[All Fields]) AND ("primary health care"[MeSH Terms] OR ("primary"[All Fields] AND "health"[All Fields] AND "care"[All Fields]) OR "primary health care"[All Fields] OR ("primary"[All Fields] AND "care"[All Fields]) OR "primary care"[All Fields])* is used as search keywords.

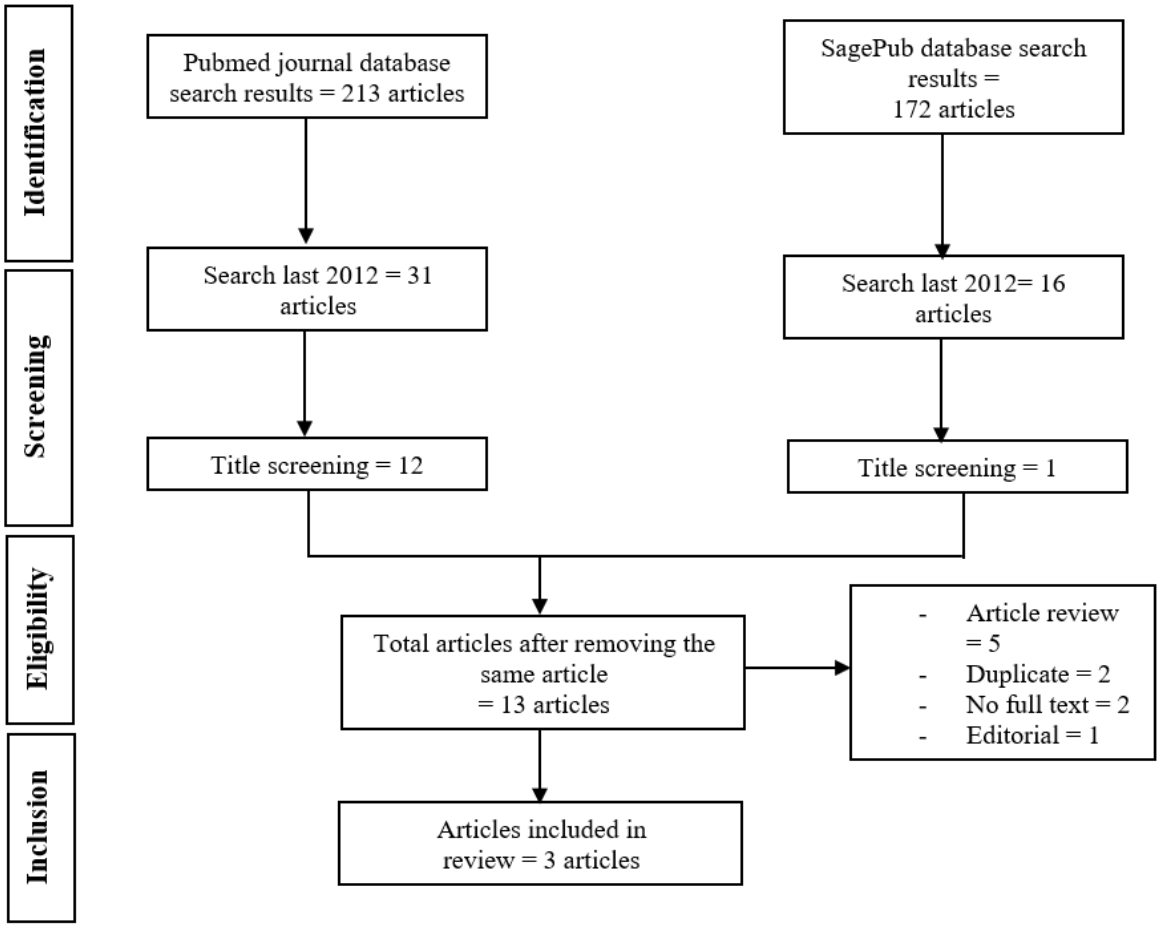

Figure 1. Article search flowchart

Data retrieval

After evaluating the abstract and title of each study, the writers determined whether or not it matched the inclusion criteria. The authors then selected historical literature as their sources for this topic. This conclusion was reached after analyzing numerous studies that all revealed the same pattern. All submissions must be written in English and unpublished previously. Only studies that met all inclusion criteria were reviewed in the systematic review. This limits search results to to relevant results.

We do not review study findings that do not satisfy our criteria. The research will subsequently be analyzed in depth. The following information was found during the course of the study's examination: names, authors, publication dates, location, study activities, and parameters. The search results were imported into an Endnote file, and duplicate articles were removed. The titles and abstracts of the remaining papers were assessed by two separate reviewers in order to select those within the scope of this review.

Quality Assessment and Data Synthesis

Each author conducted their own examination of the studies provided in the publication's title and abstract prior to picking which papers to investigate further. Then, we will evaluate all papers that match the review's inclusion criteria and are consequently deserving of inclusion. Then, we will determine which papers to include in the review depending on our findings. This criterion is used to determine which manuscripts will be evaluated. To simplify the selection of papers for review as much as feasible. What prior studies were undertaken, and what elements of these investigations made them eligible for inclusion in the review?

RESULT

The United States Preventive Services Task Force has reached the conclusion that the evidence that is currently available is insufficient to evaluate the benefits and dangers of performing screening pelvic exams in asymptomatic adult women who are not pregnant. This decision was reached by the task force after coming to the conclusion that the evidence that is currently available is insufficient. This statement is not applicable to a number of illnesses for which the USPSTF has in the past suggested screening (ie, screening for cervical cancer with a Papanicolaou smear, screening for gonorrhea and chlamydia).[8]

Table 1. The litelature include in this study

Author	Origin	Method	Sample	Recommendation
Mwaliko, 2021[9]	Belgium	Cross-sectional survey	Primary health care practitioners in western Kenya completed a 59-item questionnaire	The intention to investigate patients was predicted by direct measures of subjective norms (DMSN), direct measures of perceived behavioral control (DMPBC), and indirect measures of attitude. Bad views against examining women inhibited the ability to predict the intents of health workers. However, the predictors of intention with the highest coefficients were the external variables being a nurse (β = 0.32) as opposed to a clinical officer and workload of attending less than 50 patients per day (β = 0.56). In a bivariate analysis of intention to perform a gynecological examination, there was no evidence that professional experience, being female, having a lighter workload, or being a private practitioner were related with a greater intention to perform vaginal examinations. It was equally likely that clinical officers and nurses would evaluate women.
US Preventive Services Task Force, 2017	USA	Recommendation Statement		The United States Preventative Services Task Force has determined that the evidence currently available is insufficient to evaluate the benefits and risks of screening pelvic exams in asymptomatic, non-pregnant adult women. This statement does not apply to certain diseases for which the USPSTF has advised screening in the past. (i.e., screening for cervical cancer with the Papanicolaou test, screening for gonorrhea and chlamydia).
Doroudi, 2017[10]	USA	RCT	154,900 patients	Sensitivity and specificity of bimanual ovarian palpation were 5.1% (2/39) and 99.0% (49,957/50,459), respectively; bimanual ovarian palpation alone could not detect any cases. Except for pelvic exam, the rates of most follow-up procedures for abnormal results in women without ovarian cancer were greater in the group with another positive screening test. In the positive group identified by bimanual ovarian palpation alone, no problems were recorded.
Lim, 2014[11]	UK	Cross sectional	333 patients	Forty (31%) patients presented with symptoms; eleven (28%) presented late. Patients younger than 25 were more likely to experience a delay than those aged 25-29 (40% versus 15%, P = 0.16). Patients who delayed presentation were more likely to have vaginal discharge than those who did not; nevertheless, many did not recognize this as a probable cancer symptom. 24/40 (60%) patients reported a provider delay; in some cases, primary care records lacked documentation of a visual check of the cervix, and other patients did not return for several months after the initial presentation. The prevalence of gynecological complaints was high (84%) among patients who attended for screening.

Doroudi, et al (2017)[10] showed that the bimanual ovarian palpation had sensitivity and specificity of 5.1% (2/39) and 99.0% (49,957/50,459), respectively; no instances were discovered by bimanual ovarian palpation alone. The frequencies of most follow-up procedures for abnormal results in women who did not have ovarian cancer were higher in the group that had another screening test positive. The only exception to this was the pelvic exam. In the group that solely underwent positive bimanual ovarian palpation, there were no difficulties noted at any point.

Lim, et al (2014)[11] showed forty (31%) patients had presented symptomatically: 11 (28%) delayed presentation. Patient delay was more common in patients <25 than patients aged 25-29 (40% versus 15%, P = 0.16). Patients who delayed presentation were more likely to have vaginal discharge than those who did not; nevertheless, many of these patients claimed that they did not recognize this as a probable cancer symptom. Provider delay was noted by 24/40 patients (60%); in some cases, primary care records did not include a report of a visual inspection of the cervix, and other patients did not return for follow-up care for several months after their initial presentation. Patients who presented themselves for screening had a high prevalence of gynecological complaints (84%) overall.

DISCUSSION

Clinical examination has always been seen as a vital skill for physicians. Pelvic examination (PE) includes of vulvar inspection, bimanual examination of the pelvic organs, and speculum examination of the cervix. There is evidence that the absence of PE is connected with diagnostic delay, despite the fact that the intimacies of PE make it a difficult examination for both clinicians and patients. Several women avoid PE altogether due to the inconvenience, discomfort, shame, and loss of dignity associated with getting nude during physical education.[12,13]

The pelvic examination has been acknowledged as an essential component of the well-woman visit ever since ancient times. This session is seen by many women and gynecologic care providers as an opportunity to discuss sexual and reproductive health concerns with their patients.[6] Hence, many women take advantage of this opportunity. A pelvic examination is typically performed on asymptomatic women as a screening tool for gynecologic cancer, infection, and asymptomatic pelvic inflammatory disease; despite evidence to the contrary, some obstetrician–gynecologists and patients consider it to be important in detecting subclinical disease. a pelvic examination is typically performed on asymptomatic women as a screening tool for gynecologic cancer, infection, and asymptomatic.[8,14]

An evaluation of the patient's external genitalia, an examination of the patient's internal genitalia with the aid of a speculum, rectovaginal examination, and bimanual palpation are all potential components of the pelvic examination. These components can be carried out independently or in conjunction with one another, depending on your preference. According to the United States Preventative Services Task Force, there is not enough data to determine whether or not a pelvic exam is accurate in diagnosing a number of gynecologic illnesses.[8,15]

Because ovarian palpation alone did not reveal any cancer cases, the bimanual examination, which was previously included in the yearly screening protocols, was dropped. The American College of Physicians (ACP) defines a screening pelvic examination as an inspection of the external genitalia, speculum examination of the vagina and cervix, bimanual examination of the adnexa, uterus, ovaries, and bladder, and sometimes rectal or rectovaginal examination.[3] ACP reviewed the value of a screening pelvic examination in asymptomatic, nonpregnant adolescent girls and adult women in 2014 for the diagnosis of cancer, pelvic inflammatory disease, or other benign gynecologic diseases.[16,17]

There are few studies that have been conducted to examine the usefulness of screening pelvic examinations alone for the detection of ovarian cancer. Positive predictive values were found to be quite low across the board in the studies (ranging from 0-3.6%) The United States Preventive Services Task Force came to the conclusion that the very few studies that have been finished on screening for additional gynecologic disorders with pelvic examination alone have limited generalizability to the present population of asymptomatic women seen in primary care settings in the United States. This conclusion was reached after the US Preventive Services Task Force reviewed the studies.[8,15]

The US Preventative Services Task Force stated that there was inadequate information on the potential dangers associated with pelvic examination screening for a number of gynecologic illnesses. A few studies found false-positive rates for ovarian cancer ranging from 1.2% to 8.6% and false-negative rates ranging from 0% to 100%. These were both false-positive rate statistics. Five to thirty-six percent of women who had abnormal results on their pelvic examination underwent surgery. Only a few studies have looked at the frequency of false-positive and false-negative outcomes for specific gynecologic disorders. There has been no attempt to assess the level of anxiety associated with pelvic screening exams.[8,18]

Despite data restrictions, the low prevalence of ovarian cancer in the general population consistently resulted in poor positive predictive values (PPVs) for the screening pelvic examination in detecting it. A large study of over 20,000 women found ovarian cancer detection to be less than 5% sensitive. Even with all four research, we couldn't accurately estimate the screening's accuracy due to the condition's rarity, the small number of investigations, and the short followup periods in most of them. Depending on research design and treatment practices, 5% to 36% of women with abnormal pelvic examination results had surgery.[10]

In an older study, examination rates in a group of patients with various gynecological cancers ranged from 52 percent for women presenting with vaginal bleeding to 18 percent for abdominal discomfort and just 4 percent for abdominal edema.[19] In a North American survey of ovarian cancer patients, fifty percent of those who initially consulted a primary care practitioner obtained a PE prior to referral. In a Nigerian study of self-reported practice, examination rates were lower: only 11.1% of GPs said they would do a speculum examination on women presenting with post-coital bleeding; this percentage decreased to 7.6% for women presenting with post-menopausal hemorrhage.[20,21]

Bleeding may be an indication of pathology of the reproductive system, such as cervical cancer. Before using the PALM-COEIN classification to diagnose abnormal uterine bleeding (classifies causes of abnormal bleeding into structural and functional: Polyps, Adenomyosis, Leiomyoma, Malignancy and hyperplasia, Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic, and Not yet classified), lesions of the cervix should be ruled out. The PALM-COEIN classification aids in investigations and treatment modality selection. Consequently, even assessing people under 25 years of age (the suggested age to initiate screening) helps to establish the diagnosis.[9]

The pelvic examination can detect vulvar or vaginal cancer before symptoms show, as well as dermatologic abnormalities and foreign bodies. Medical experts formed these opinions. Screening pelvic examinations during well-woman visits may allow gynecologists to explain a patient's anatomy, reassure her of normalcy, and answer her questions, fostering open dialogue between the patient and her provider. If the patient and her obstetrician–gynecologist can communicate, aberrant symptoms may be identified.[7]

Screening pelvic exams' risks are poorly documented. The American College of Physicians found low-quality evidence that screening pelvic examinations elicit dread, anxiety, and embarrassment. 10%–80% of women felt these sensations. No studies examined indirect consequences such false reassurance, overdiagnosis, overtreatment, or diagnostic method issues.[16]

Training program administrators, clinicians, and medical educators must discuss intimate examination skills development, maintenance, and efficient clinical use. Further research is needed to understand how patient and practitioner characteristics affect PE use. They are aware that women's guilt regarding PE, lack of symptom awareness, misattribution of symptoms, and difficulty obtaining primary care may prevent them from seeing their doctor, but we need to investigate if these can be changed.

CONCLUSION

There is not enough evidence to back the claim that pelvic examination (PE) is helpful in the process of detecting gynecological cancer in parimary care. PE is frequently not performed on women with gynecological cancer symptoms, and evidence that it may result in an earlier stage of diagnosis is limited. Further investigation is required.

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