

The frequency of endometriosis in the general and selected populations: a systematic review.

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INTRODUCTION

Endometriosis is considered a common condition. Many quoted reviews report a frequency of endometriosis ranging from 5 to 10% in the general population and 35-50% in women with pain and infertility (1-3). These statements give a clear picture of the uncertainties about the real frequency of the condition.

Most of these uncertainties are due to the variance between studies of patient populations. Generally, three populations have been considered in the studies on the frequency of endometriosis: (1) asymptomatic patients undergoing an unrelated procedure, (2) symptomatic patients, either undergoing laparoscopy or being treated empirically, and (3) infertile patients. The highest prevalence rates of endometriosis being found in infertile couples. Further some studies have analyzed the frequency of diagnosis of endometriosis using routine databases (such as hospital discharge diagnosis) or self-reported diagnosis of endometriosis. Recently, three systematic reviews have revised data on the frequency of endometriosis in selected population (i.e. according to race, in adolescents and in asymptomatic women) (4-6). In this paper we have reviewed available data on the frequency of endometriosis considering separately the incidence and the prevalence of the disease using data from papers published from 2000 to June 2019.

METHODS

Identification and retrieval of studies was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Metaanalyses (PRISMA) statement (7). We searched the PubMed (National Library of Medicine, Washington, DC) and EMBASE databases from 2000 up to July 2019 using different combinations of the following key words: (a) “frequency plus endometriosis”, “incidence plus endometriosis” “prevalence plus endometriosis”. (Limit: Human, English). Letters to the editor, commentaries, historic reviews, case-control, and experimental studies were excluded. Furthermore, we have reviewed reference lists of retrieved articles to search for other pertinent studies.

Eligibility criteria

We included studies that contained incidence or prevalence rates or ratios for the following prespecified populations: general population, infertile women, women reporting pelvic pain, women who underwent pelvic surgical procedures unrelated with endometriosis.

Studies were selected for the review if they met all the following criteria: clinical studies, studies reporting original data, studies reporting diagnosis of endometriosis.

If more than one study was found with data from the same population, we made priority to the most recent data, followed by data encompassing the longest duration of follow-up, or data with the most people.

Data extraction

Two authors reviewed the papers and independently selected the articles eligible for the systematic review. For each study, the following information was extracted: first author’s last name; year of publication, country, entry criteria, number of subjects; design of the study; criteria for the diagnosis of endometriosis, number of women with and without endometriosis.

Data synthesis and analysis

The primary outcomes assessed were cases of endometriosis in the considered populations in the total series and separately, when available, for strata of age.

The 95% confidence interval (CI) of incidence and prevalence rates was computed. The 95%CI are presented in the table for studies considering the incidence and in the figures for those considering the prevalence of the condition.

Further, to perform a formal meta-analysis of these proportions, we selected only the studies with 100 or more patients in order to obtain more consistent data. We used Metaprop, a command implemented in Stata to compute meta-analysis of proportions. Freeman-Tukey method was applied to include, in the computation, the studies with outcome proportion equal zero (8). Estimates of proportion and 95% CI were calculated by using random effect model. To evaluate heterogeneity among studies, heterogeneity chi square value and p value were also reported.

RESULTS

Study selection

Figure 1 shows the flow diagram of the literature search results. A total of 195 articles were identified by database search as potentially relevant and another 3 citations were found from the reference lists.

A total of 140 articles were excluded after evaluation of abstract and/or full text because they did not satisfy the inclusion criteria and 2 for duplicate publication. Thus, 56 articles were assessed for eligibility.

Overall, 13 publications were not included in the current review and meta-analysis: 2 studies because original data were not extrapolated or not available; 3 studies referred to the same population of another included study, 1 was a review and 8 papers considered or only women with endometriosis or very selected populations.

A total of 42 papers are included in this review (6; 9 - 49).

Analysis of frequency of endometriosis

Incidence

The incidence of endometriosis in the general population has been considered in 8 studies: their main characteristics are considered in Table 1.

Of the identified studies, three were conducted in the US and five in Europe (Italy, UK, Germany, Sweden, Israel). With regard to the type of studies, three were cohort studies, one a retrospective cohort study and four an analysis of routine data base. The number of cases with endometriosis considered in the computation of the incidence rates ranged from 488 to about 50.000. The diagnosis was based on surgery in five studies.

The incidence rates /1000 women/year ranged from 0.4 to 3.1. (Table 2)
The incidence rates increased with age in all the studies that reported this information till the fourth decade of life and decreased thereafter in all the studies except in the study by Stahlamn *et al.* (46).

Prevalence

General population

Table 3 considers the eleven studies that have analyzed the prevalence of endometriosis in the general population.

Four studies had a cross-sectional design, one was a prospective study, three were a questionnaire survey and three were an analysis of routine data base. A total of four studies were conducted in Europe, three in the US (including Puerto Rico), three in Asia and one in Australia.

The sample size ranged from 504 to more than 82000 women. The diagnosis was self-reported by the woman in six study. The diagnosis was based on ultrasound findings and clinical criteria in one study, on magnetic resonance imaging findings in three studies and on routine clinical data in other three works. Table 4 shows the prevalence rates reported in the total population and separately for the class age (when available) in the considered studies.

Considering the total population, the reported prevalence ranged from 0.8% to 28.6% with an overall estimated of 4.4% (95%CI 3.6-5.2, Figure 2A).

When we considered separately the estimates reported in each study according to geographic area, the pooled estimate was lower in the European studies (1.4%), increased to 5.7% in the US studies and was 15.4% in the Asian ones (the latter estimated was however largely affected by the results of two studies (11;30) (data not shown).

Selected populations

Table 5 shows the main characteristics of the twenty-five identified studies that have considered the prevalence of endometriosis in selected populations (i.e. women who underwent pelvic gynecological surgery for conditions unrelated with endometriosis, infertile women, women who underwent surgery for tubal sterilization and women with chronic pelvic pain). A total of five studies have considered women who underwent pelvic surgery for benign gynecological conditions such as uterine fibroids, ovarian cysts or uterine prolapse, fourteen for infertility, one for tubal sterilization, and seven for chronic pelvic pain. Nine studies were conducted in Europe, eight in US, three in Africa, thirteen in Asia, two in Australia and one in the South America. The diagnosis was

surgically based in twenty-two studies, in one was on surgically or clinically based and in two study based on US and/or serum CA 125 and/or laparoscopy and /or MRI. The sample size ranged from 28 women to 3768.

Table 6 shows the main results of the studies. The pooled estimated prevalence of endometriosis was 33.5 (95%CI 24.3-42.8, Fig 2B) in women who underwent surgery for benign gynecological conditions, 23.8% (95%CI 16,1-31,5, Fig. 2C) in infertile women, and 49.7 % (95%CI 14.4-85.0) in women with chronic pelvic pain (Fig. 2D).

DISCUSSION

Main findings

The main findings of the review include:

- 1) the reported prevalence of endometriosis in the general population according to the pooled estimate is 4.4% (95%CI 3.6-5.2).
- 2) the prevalence of the diseases was 49.7% among women with chronic pelvic pain and 23.8 among infertile women.

The results of this review were limited due to lack of detailed age-grouped data from most of the included studies. In the few studies reporting prevalence of the condition in class age, the frequency of endometriosis increased till age 40 and decreasing thereafter.

The frequency of endometriosis has been already reviewed in previous studies (1-3). Further, three systematic reviews have revised data on the frequency of endometriosis in selected population (4-6). However, no systematic review has been published at our knowledge on the frequency (incidence and prevalence) of endometriosis in the general population. The present analysis offers in a single paper a synthesis of available evidences on the issue. Further, a novel finding of this review is also the opportunity of review the evidences about the frequency of endometriosis in the general population in different geographical areas and in strata of age.

Strengths and limitations

In considering the strengths and limitations of this analysis, we should first consider the fact that the data included in this review was mainly collected in the hospital setting, so the results of this analysis may be an overestimation of the prevalence of endometriosis.

The apparent heterogeneity of the results obtained represents a restriction of the study which can probably be explained by the different study design or by the selection of patients from the works considered, but which we cannot fully explain in terms of clinical characteristics. In fact, even considering similar populations we found statistically significant heterogeneities between the studies.

This confirms a well-known discovery in the literature on the frequency of endometriosis: similar results were observed in a review of the literature conducted in 2006 and substantially considering articles published in the period 1975-2000 (50).

Although absolute homogeneity between studies may appear desirable, it should not preclude generalization to a large clinical population; however, understanding the sources of heterogeneity remains important.

Another limitation is the fact that the authors diagnosed endometriosis differently, though most studies have considered surgical diagnosis.

We have included only articles published since 2000. We have decided to consider only more recent articles in order to reduce the potential differences in the diagnostic criteria / awareness towards endometriosis due to the calendar period of the diagnosis (50-51). As for diagnostic biases, we should also consider that the diagnosis of infertility or chronic pelvic pain differ between the studies. Different criteria for referring women to laparoscopy in the diagnostic work of these conditions can greatly influence the selection of more serious cases, i.e. cases most likely to be affected by endometriosis.

We only considered publications published in English. Authors may be more inclined to publish in an international journal in English if the results are consistent with previously published data, while anomalous results are more often published in a local journal.

Limiting our analysis to publications in English-language journals can therefore limit the completeness of the information, thereby causing distortions. However, the direction and strength of this bias is unclear.

Another limitation is the fact that most studies included a very limited number of subjects. Although systematic reviews with meta-analysis provide an explicit method for summarizing the evidence and have overcome the low potency of individual studies, they may not be as valuable as a single large observational study.

In conclusion, despite its potential limitations, this review offers an overview of the available data on the frequency of endometriosis in the general population and in the selected population, particularly among sterile women and women with chronic pelvic pain.

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Table 1. Characteristics of studies on the Incidence of endometriosis in the general population.

Authors, Year, Country	Entry Criteria	Sample size (women with endometriosis)	Type of study	Diagnosis of endometriosis
Leibson <i>et al.</i> , 2004, Minnesota US (32)	Women resident in the Olmsted county aged 15 or more	1077	Cohort study	Surgery
Missmer <i>et al.</i> , 2004, US, (37)	Female registered nurses, ranging in age from 25 to 42 years and residing in 14 states in the United States	1721	Cohort study	Self -reported by the woman
Abbas <i>et al.</i> , 2012, Germany, (9)	All permanently insured women in the period 2005-2007 between 15 and 54 years of age	488	Analysis of inpatient and outpatient data from a statutory health insurance fund.	Documentation of an ICD-10 N80 diagnosis in either out- or inpatient care
Morassutto <i>et al.</i> , 2016, Italy, (38)	All residing women aged 15-50 years	2016	Analysis of hospital discharge records and anatomic pathology reports (2011-13)	Surgery
Cea Soriano <i>et al.</i> , 2017, UK, (17)	Women aged 12–54 years identified in the Health Improvement Network (THIN) and Hospital Episode Statistics (HES) database	5087	Retrospective analysis of routine data base	Code for endometriosis, identified in THIN data base. Cases were validated by manual review of medical records and responses to physician questionnaire
Eisenberg <i>et al.</i> , 2017, Israel, (19)	All female Maccabi healthcare service members aged 15–55 years at diagnosis who had at least 12 months of continuous enrolment prior to their first endometriosis diagnosis.	7440	Retrospective population-based study.	Cases were defined by at least one endometriosis diagnosis code from a primary care doctor, gynaecologist, or other specialist during the study period.
Saavalainen <i>et al.</i> , 2018, Sweden, (45)	All resident women	49956	Register-based cohort study	First surgical diagnosis of endometriosis

Stahlman <i>et al.</i> , 2017, US, (46)	All women who served in the active component of the U.S. Army, Navy, Air Force, or Marine Corps at any time during the surveillance period. 2012-16	3066	Analysis of outpatients and inpatients register	Case of endometriosis was defined as an individual with two outpatient medical encounters within 180 days with a case-defining code (ICD-9: 617.*; ICD-10: N80.*) in any diagnostic position; or an inpatient encounter with a case-defining code in any diagnostic position.
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Table 2. Incidence rates (1000 women year) of endometriosis

Authors, Year	Total series	15-19	20-24	25-29	30-34	35-39	40-44	45-54	55+
Leibson <i>et al.</i> , 2004, (32)	1.87 (95%CI:1.76-1.99)	1.13 (95%CI: 0.93-1.37) →		3.8 (95%CI: 3.48-4.16) →		2.56 (95%CI: 2.28-2.86) →		1.,74 (95%CI:1.47-2.05)	0,16 (95%CI:0.1-0.24)
Missmer <i>et al.</i> , 2004 , (37)	2.4*			3.0	2.9	2.6	1.8	1.1**	
Abbas <i>et al.</i> , 2012, (9)	3.5 (95%CI:3.0-4.0)	2.1 (95%CI:1.6-3.3) →		3.1 (95%CI:2.4-4.6) →		5.0 (95%CI: 4.1-6.4) →		3.2 (95%CI: 2.6-4.4)	→
Morassutto <i>et al.</i> , 2016, (38)	1.4								
Cea Soriano <i>et al.</i> , 2017, (17)	1.02 (95%CI: 0.99–1.05)								
Eisenberg <i>et al.</i> , 2017, (19)	0.72 (95% CI: 0.65–0.8)								
Saavalainen <i>et al.</i> , 2018, (45)	0.4^^								
Stahlman S <i>et al.</i> , 2017, (46)	3.1	0.62	1.88	2.60	3.57	6.04	6.67***		

*only women with no past infertility **45-52

^estimated from published rates ^^2011-12






***40+

Table 3. Characteristics of studies on the prevalence of endometriosis in the general population.

Author, Year, Country	Entry criteria	Sample size	Type of study	Diagnosis of endometriosis
Eskenazi <i>et al.</i> , 2002, Italy, (20)	Women 50 years old or younger in 1996 and residing in an area at low exposure of dioxine during the Seveso accident	504	Cross sectional	US and clinical criteria
Flores <i>et al.</i> , 2008, Portorico, (22)	Puerto Rican women recruited at health fairs, universities, private companies, and shopping centers	1193	Questionnaire survey	The diagnosis of endometriosis was supported by questions regarding any reported diagnostic procedure
Buck Louis <i>et al.</i> , 2011, US, (15)	Currently menstruating women identified by site-specific population registries (the population group of the ENDO study)	127	Prospective study	MRI
Abbas <i>et al.</i> , 2012, Germany, (9)	All permanently insured women in 2007 between 15 and 54 years of age	62,323	Analysis of inpatient and outpatient data from a statutory health insurance fund.	Documentation of an ICD-10 N80 diagnosis in either out- or inpatient care.
Eisenberg <i>et al.</i> , 2017, Israel, (19)	All female Maccabi healthcare service members aged 15– 55 years and with at least 12 months of continuous enrolment in the health plan were included in the denominator.	7440 cases with endometriosis	Retrospective population-based study	Cases were defined by at least one endometriosis diagnosis code from a primary care doctor, gynaecologist, or other specialist during the study period.
Fuldeore and Soliman, 2017, US, (23)	Women aged 18–54 years in the US included into the Harris Poll Online panel (Harris Interactive, New York, NY, US), Global Market Insite (GMI) respondents panel (Lightspeed Research, Warren, NJ, US), and E-rewards opinion panel (Research Now Group, Inc., Plano, TX, US)	48020	Cross-sectional survey	Self-reported
Glavind <i>et al.</i> , 2017, Denmark, (24)	Singleton pregnancies from the Aarhus Birth Cohort (1989 through 2013)	82793	Population based study	Surgery or hospital discharge for endometriosis
Al-Jefout <i>et al.</i> , 2018, Unit Arab Emirates, (11)	Women aged between 18-55 years residents of UAE, who are working or studying at the United Arab Emirates University in Al-Ain city in November 2016. Participants were recruited via email generated system	3572	Questionnaire-based cross-sectional study	Self-reported surgical diagnosis of endometriosis

Hosseini <i>et al.</i> , 2018, Iran, (26)	Women in premarital counselling classes	652	Cross sectional	Self-reported
Jiao <i>et al.</i> , 2018, China, (30)	Based on the population database, women were chosen by stratified cluster sampling method. Inclusion criteria: married; < 50 years old; search of pregnancy ; diagnosis of infertility	857	Questionnaire filled by trained interviewers	Self-reported (questionnaire)
Reid <i>et al.</i> , 2019, Australia, (43)	Convenience sample of Australian adults aged over 18 years who were representative of the general population with regards to age and state/territory of residence.	2025	Cross-sectional survey design.	Self-reported by the woman.

Table 4. Prevalence rates (%) of clinically diagnosed endometriosis in the general population.

Authors, Year	All ages	15-19yr	20-24yr	25-29yr	30-34yr	35-39yr	40-44yr	45-54yr
Eskenazi <i>et al.</i> , 2002, (20)	1.1 (11/504)		33.3 (5/15 [^])		1.7 (4/232 [^])		40-49yr: 4.3 (10/235 [^])	
Flores <i>et al.</i> , 2008 , (22)	4.0 (48/1285)	2.3 (5/221)	3.1 (18/579)		7.7 (19/247)		40-49yr: 6.3 (11/174)	50+yr: 6.3 (4/63)
Buck Louis <i>et al.</i> , 2011, (15)	1.1 (14/127)							
Abbas <i>et al.</i> , 2012, (9)	0.8 (488/62323)	0.31		0.67		1.28		0.77
Eisenberg <i>et al.</i> , 2017, (19)	1.1 (6140/570781)	0.07 (52/72268)	0.26 (167/64136)	0.65 (428/65672)	1.10 (72/65498)	1.66 (1187/71360)	1.86 (1620/87080)	45-49yr: 1.58 (1173/74246) 50-54:1.13 (797/70521)
Fuldeore and Soliman, 2017, (23)	6.1 (2922/48020)							
Glavind <i>et al.</i> , 2017, (24)	2.2 (1213/55829)							
Al-Jefout <i>et al.</i> , 2018, (11)	1.5 (55/3572)	1.34 (17/1235)	0.99 (21/2119)		1.34 (2/149)		20 (10/50)	50yr+: 2.27 (5/22)
Hosseini <i>et al.</i> , 2018, (26)	2.0 (17/652)*							
Jiao <i>et al.</i> , 2018, (30)	28.6 (245/857)							

Reid <i>et al.</i> , 2019, (43)	3.5 (22/630)	18-29yr: 2.4 (6/253)			30-39yr: 3.5 (6/170)		40-49yr: 4.4 (10/229)	
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^including also 90 women residing in an area with high exposure at dioxine

*Estimated by published rates

Tab.5 Characteristics of studies on the prevalence of endometriosis in selected populations.

Authors, Year, Country	Entry criteria	Sample size	Type of study	Diagnosis of endometriosis
Corson <i>et al.</i> , 2000, US, (18)	Infertile women.	100	Retrospective chart review	Surgery
Matorras 2001, Spain, (33)	750 women in infertile couples in which the male partner had normal sperm	750	Cross sectional	Surgery
Sule <i>et al.</i> , 2008, Nigeria, (47)	Infertile women aged between 15 and 55 years assessed in four hospital centers.	200	Retrospective analysis of clinical chart	Surgical or clinical diagnosis
Barbosa <i>et al.</i> , 2009, Brazil, (14)	Asymptomatic fertile patients who underwent tubal sterilization surgery	80	Cross sectional study	Peritoneum biopsies studied using histopathological tests
Khawaja <i>et al.</i> , 2009, Pakistan, (27)	Women presenting to gynaecologic clinics of the Aga Khan University Hospital from January 1999 to December 2005 with primary complaint of primary or secondary infertility and were subjected to diagnostic laparoscopy and dye test	796	Retrospective study	Surgery
Meulemann <i>et al.</i> , 2009, Belgium, (34)	Infertile women without previous surgical diagnosis for infertility with regular cycles (variation, 21–35 days) whose partners have a normal semen analysis Tertiary academic fertility center	221	Retrospective case series with electronic file search	Surgery
Bablok <i>et al.</i> , 2011, Polland, (13)	Infertile couples Only primary infertility was taken into consideration and the duration of infertility had to be at least one. The study was performed in years 2007 thru 2011.	1517	Cross sectional	Surgery

Camilleri <i>et al.</i> , 2011, Malta, (16)	Women who underwent diagnostic laparoscopy 2003-2008	437	Retrospective analysis of data from hospital discharge	Surgery
Naphattalung <i>et al.</i> , 2012, Thailand, (40)	Patients were consecutive premenopausal women aged 40 to 50-years-old that had no prior surgical diagnosis of endometriosis, and had symptomatic adenomyosis and/or myoma uteri scheduled for a total abdominal hysterectomy with or without BSO.	132 leiomyomas	Cross sectional study	Surgery
Opoku-Anane and Laufer, 2012, US, (41)	Subjects <22 years who 1) were referred for the evaluation of chronic pelvic pain, 2) did not respond to NSAIDs and an OCP, and 3) underwent diagnostic laparoscopy	117	descriptive retrospective study	Surgery
Tanmahasamut P <i>et al.</i> , 2014, Thailand, (48)	Women at least 18 years old admitted to Siriraj Hospital for surgeries due to benign gynecologic conditions	331	Review of clinical records	Surgery
Fawole <i>et al.</i> , 2015, Nigeria, (21)	Premenopausal women aged 18 and 45 scheduled for their first diagnostic laparoscopy for a gynecologic indication	239	Cross sectional	Surgery
Mishra <i>et al.</i> , 2015, India, (35)	Women who underwent diagnostic laparoscopy for evaluation of cause for infertility.	372	Retrospective study	
Ragab <i>et al.</i> , 2015, Egypt, (42)	Adolescent school girls with severe dysmenorrhea(15.2 ±3.53 SD years)not responding to medical treatments	220	Cross sectional	abdominal ultrasonography (AUS), serum cancer antigen 125 (CA125). Laparoscopy or magnetic resonance imaging (MRI).
Rouzi <i>et al.</i> , 2015, Saudi arabia, (44)	Women who had gynecologic laparoscopy at a university hospital in Saudi Arabia	190	Analysis of hospital records	Surgery
Tayyba A, Gul-E-Raana, 2015, Pakistan, (49)	Women who underwent laparoscopy for infertility	141	Observational study	Surgery
Apostolopoulos <i>et al.</i> , 2016, UK, (10)	Women who underwent diagnostic laparoscopy for investigation and treatment of CPP were included in the study unless they were less than 16 years	144	Prospective observational study	Surgery
Mowers <i>et al.</i> , 2016, US, (39)	Women who underwent laparoscopic or abdominal hysterectomy for CPP	3,768	A retrospective cohort study	Surgery
Jangsher S <i>et al.</i> , 2016, Pakistan, (29)	Primary subfertile females 20-35 years	80	Prospective clinical study	Surgery
Yamamoto <i>et al.</i> , 2017, US, (31)	Women undergoing a first IVF cycle (January 1, 2008 and December 31, 2009) were retrospectively assessed for an endometriosis diagnosis	717	Retrospective review of clinical charts	EMR documentation of endometriosis, endometrioma, cyst on ultrasound with characteristics consistent with endometrioma, laparoscopic confirmation for endometriosis, or

				oophorectomy for endometriomas
Hemmer <i>et al.</i> , 2018, US, (25)	Women undergoing gynaecologic laparoscopy or laparotomy regardless of clinical indication (42% pelvic pain, 15% pelvic mass, 12% menstrual irregularities, 10% fibroids, 10% tubal ligation, 7% infertility) (ENDO) study (2007-2009)	495	Cross sectional	Surgery
Mishra <i>et al.</i> , 2017, India, (36)	Women who underwent diagnostic laparoscopy for evaluation of cause for infertility.	502	Prospective study	Surgery
Al-Jefout <i>et al.</i> , 2018 Unit Arab Emirates, (12)	Female patients aged ≤ 21 who had CPP refractory to conventional medical therapy	28	Prospective	Surgery
Jabeen S.S <i>et al.</i> , 2018, Pakistan, (28)	Laparoscopy for infertility	100	Cross sectional	Surgery
Mirowska-allen <i>et al.</i> , 2019, Australia, (6)	Women referred with CPP for whom gynaecologists who recommended a laparoscopy	59	Cross sectional	Surgery

Tab.6 Main results of studies on the prevalence (%) of endometriosis in selected populations.

Authors, Year	Pelvic surgery	Infertility	Tubal sterilization	Chronic pelvic pain
Corson <i>et al.</i> , 2000, (18)		43 (43/100)		
Matorras 2001, (33)		34.5 (259/750)		
Sule <i>et al.</i> , 2008, (47)		2.5 (5/200)		
Barbosa <i>et al.</i> , 2009, (14)			16 (13/80)	
Khawaja <i>et al.</i> , 2009, (27)		16.8 (134/796)		
Meulemann <i>et al.</i> , 2009, (34)		47 (104/221)		
Bablok <i>et al.</i> , 2011, (13)		9.6 (145/1517)		
Camilleri <i>et al.</i> , 2011, (16)		23 (74/437)		

Naphattalung <i>et al.</i> , 2012, (40)	Leyomiomas: 22.7 (30/132)			
Opoku-Anane and Laufer, 2012, (41)				98 (115/117)
Wei <i>et al.</i> , 2012,	28.9 (26/90)			
Tanmahasamut P <i>et al.</i> , 2014, (48)	30.5 (55/285)			
Fawole <i>et al.</i> , 2015, (21)	48.1 (115/239)			
Mishra <i>et al.</i> , 2015, (35)		48.4 (180/372)		
Ragab <i>et al.</i> , 2015, (42)				25.4 (56/220)
Rouzi <i>et al.</i> , 2015, (44)	Pelvic masses: 16.7 (2/12)	6.6 (5/76)		20.6 (7/34)
Tayyba A., Gul-E-Raana, 2015, (49)		24 (33/141)		
Apostolopoulos <i>et al.</i> , 2016, (10)				66.6 (96/144)
Mowers <i>et al.</i> , 2016, (39)				21.4 (806/ 3768)
Jangsher S <i>et al.</i> , 2016, (29)		11 (9/80)		
Yamamoto <i>et al.</i> , 2017 (31)		9.5 (68/717) ^o		
Hemmert <i>et al.</i> , 2018 (25)	41 (192/473)			
Mishra <i>et al.</i> , 2017, (36)		55 (276/502)		
Al-Jefout <i>et al.</i> , 2018, (12)				71.4 (20/28)
Jabeen S.S <i>et al.</i> , 2018, (28)		11 (11/100)		
Mirowska-allen <i>et al.</i> , 2019, (6)				44.1 (26/59)

^oendometrioma are not included

