Diagnosis and referral flow in the single health system for climacteric women

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SUMMARY

OBJECTIVE: The association between gynecological diagnoses and their distribution across healthcare sectors benefits health promotion and the identification of topics for continued education of gynecological care. This study aimed to identify healthcare diagnoses and referral flow in climacteric women.

METHODS: This is a cross-sectional study conducted at the Women's Health Clinic of the University Hospital, University of São Paulo, with a reference to gynecology and training for Residents of Family and Community Medicine, between 2017 and 2018. The medical records of 242 women whose sociodemographic and clinical information, gynecological diagnoses, and distribution of healthcare services (primary, secondary, and tertiary) had been processed were collected. Statistical analysis included the chi-square test and odds ratio.

RESULTS: Smoking (OR = 2.27, 95% CI 1.05–4.89; p = 0.035) was associated with the referral of climacteric women to higher complexity services. Considering the distribution of non-oncological diagnoses in climacteric patients, the chance of women being referred to medium- and high-complexity health services presented a 2-fold increase in cases of breast diseases, a 2.35-fold increase in cases of noninflammatory disorders of the female genital tract, and a 3-fold increase in cases of inflammatory diseases of the pelvic organs.

CONCLUSION: Climacteric women aged over 55 years, postmenopausal women, and smoking women were most frequently referred to medium- and high-complexity outpatient surgery.

KEYWORDS: health services; gynecology; women's health; health care levels; health systems.

INTRODUCTION

Evaluating medium-complexity health services is important to ensure adequate care, guidance, and training for primary care network professionals and to maintain a balance between health care levels[1]. The evaluation process also allows for the analysis of procedures between providers and users (referencing) and

of the final health situation (individual or collective) as a result of the complex between providers and consumers of healthcare interventions[2].

The characterization of the assisted population at different levels of health services improves the quality of care. Consequently, topics relevant to women's health in interdisciplinary training in outpatient settings[3] are fundamental for the hierarchization of healthcare services, in which health promotion and treatment measures remain incipient. Some studies have reported that women who were referred to medium-complexity healthcare services had non-oncological gynecological diagnoses that were inadequately clinically managed in primary care[4,5].

The climacteric period is the phase in a woman's life when prevention and promotion actions are expected to happen in primary care[6,7]. A projection study indicated that by 2020, the demand for specific women's healthcare services will have grown by 6-10%, in both developed and developing countries[8]. Studies associating gynecological diagnoses and their distribution at different complexities and healthcare service levels are rare, but they improve health promotion, continued and interdisciplinary medical education, and resource rationalization[9-11]. Thus, such studies significantly improve the various fields of action of a multidisciplinary team, with marked effects on public health, resulting in direct benefits to women's health[3].

The objective of this study, which was conducted in a women's health assistance service that included a residency supervision in Family and Community Medicine, was to identify healthcare diagnoses and the referral flow of climacteric women.

METHODS
Study design, location and period

This study was conducted as a cross-sectional study at the Women's Health Outpatient Clinic, University Hospital of the University of São Paulo (ASM-HU/USP), from January 2017 to December 2018. The outpatient clinic is intended for gynecological care, teaching, learning, training, and supervision service for first-year Family and Community Medicine residents. It receives women with unsatisfactory or unexpected previous clinical management referred from basic health clinics to the medium-complexity reference outpatient clinic in the so-called Western Region Project (PRO, in the Portuguese acronym).

The PRO was an agreement between the University and the city government of São Paulo, Brasil, for the provision of assistance, education, and research; the development of joint activities with undergraduate Medicine, Speech Therapy, Physical Therapy, and Occupational Therapy courses, and for training graduate Family and Community Medicine, Psychiatry, Pediatrics, and General Medicine students. The basic health clinics in the PRO implement the Family Health Strategy of the Brazilian Unified Health System (SUS) in the western region of the city of São Paulo, which comprises the neighborhoods of Jardim Boa Vista, Butantã, Jardim d'Abril, Jardim São Jorge, Vila Dalva, Jardim Jaqueline, Vila Sônia, and Paulo VI.

Study participants

This is a secondary analysis of previously published data[3] in which the medical records of 428 initial consultations were collected by convenience sampling. This study selected medical records of 242 women aged between 40 and 65 years.

Data collection source

The study used secondary data from the Medical Records Storage Service of the University Hospital of the University of São Paulo (SAME/HU/USP), and information from the first consultations of patients treated at the Women's Health Clinic was extracted.

Data collection procedure

All sociodemographic, clinical, and gynecological data, including information on the type of treatment, referral, and counter-referral, were collected using a standardized form and entered into a Microsoft Excel spreadsheet (.xls). Data were checked for consistency, and, in case of differences, the medical records were reread.

Sociodemographic variables considered were age, ethnicity, economic activity, and origin. The clinical variables included multiple morbidities (presence of two or more concomitant diseases), age at first sexual intercourse, age at menarche, age at last menstruation (age at menopause), sexual activity, parity, current smoking habit, and type of treatment (clinical or surgical).

The gynecological diagnoses were standardized according to the 10th revision of the International Classification of Diseases (ICD-10, 2011) and grouped into five categories[3,11], namely, urinary tract diseases (N30–N39), breast diseases (N60–N64), inflammatory diseases of the female pelvic organs (N70–N77),

TABLE 1. CHARACTERIZATION AND TYPES OF GYNECOLOGICAL DIAGNOSES IN CLIMACTERIC WOMEN TREATED AT THE WOMEN'S HEALTH OUTPATIENT CLINIC IN THE UNIVERSITY HOSPITAL OF THE UNIVERSITY OF SÃO PAULO (ASM/HU/USP).

Characteristics	N	%
Age (years)		
40–44	70	28.92
45–54	99	40.91
55–64	68	28.10
65	5	2.06
Race		
White	142	62.83
Not white	84	37.17
Employment		
No	100	58.14
Yes	72	41.86
Multimorbidity		
No	83	35.78
Yes	149	64.22
Alcohol consumption		
No	182	95.79
Yes	8	4.21
Menarche (years)		
8–12	95	39.09
13–16	100	41.56
> 16	14	5.76
Menopause		
No	146	60.33
Yes	96	39.67
Natural age at menopause (years)		
< 40	9	9.47
40–45	20	21.05
46–54	51	53.68
> 55	15	15.79
Smoker		
No	154	75.12
Yes	51	24.88
Parity		
Nulliparous	21	8.64
1–2 pregnancies	92	37.86
3 or more pregnancies	129	53.50
Active sex life		
No	64	32.49
Yes	133	67.51
Types of diagnoses		
Urinary tract diseases (N30–N39)	59	24.28
Breast diseases (N60–N64)	9	3.70
Inflammatory diseases of the female pelvic organs (N70–N77)	16	6.58
Noninflammatory disorders of the female genital tract (N80–N99)	181	74.49
General examination, contraception, and procreation (Z00–31)	9	3.70

noninflammatory disorders of the female genital tract (N80–N99), and general examination and investigation of patients without complaints (Z00–31). The grouping was based on clinical symptoms and similar diagnostic evaluations. When a patient had two or more diagnoses, each one was described separately. The exclusion criteria were pregnancy, childbirth, puerperium, ectopic pregnancy, and cancer, as well as incomplete information. Oncological diagnoses were not referred to the outpatient clinic but to oncological treatment services in the healthcare network.

Healthcare services were characterized according to the type of assistance provided and the complexity as primary sector or low complexity (basic healthcare clinics, teaching healthcare centers, women's outpatient clinics), secondary sector or medium complexity (the university hospital and other medium-complexity hospitals and surgical specialty clinics), and tertiary sector or high complexity (high-complexity hospitals and oncological support hospitals). The flow of the healthcare service distribution started at the referral and counter-referral services, i.e., the place of origin and the place where the patient received the treatment or returned to the place of origin.

Ethical aspects

This research was analyzed and approved by the Ethics Committee of the University of São Paulo School of Medicine under opinion No. 228/13.

Statistical analysis

Study variables were grouped by absolute and relative frequency and odds ratio, as described in tables. The odds ratio was estimated using logistic regression. Stata® software (StataCorp, LC) version 11.0 was used for statistical analysis, and the significance level was 5%.

RESULTS

A total of 428 women were observed and registered at the outpatient clinic in the University of ASM - HU/USP during the study period, with 242 climacteric women referred from the basic healthcare clinics (UBS) of Jardim São Jorge (46.28%, n = 112), Jardim Boa Vista (14.87%, n = 36), Vila Dalva (10.33%, n = 25), Jardim Jaqueline (7.85%, n = 19), Butantã (7.02%, n = 17), Jardim d'Abril (4.96%, n = 12), and Vila Sônia (0.41%, n = 1), as well as the staff at the University Hospital and other health centers (8.26%, n = 20).

Of the 242 cases, only 54.3% were low-complexity cases of possible resolution in the referred outpatient clinic (clinical management), 42% required other interventions (outpatient or hospital) and were referred to medium-complexity services, and 3.7% were referred to high-complexity services (Figure 1).

The main gynecological and non-oncological diagnoses found in patients treated at 'the University of ASM - HU/USP were noninflammatory disorders of the female genital tract (N80–N99), 74.49% (181); urinary tract diseases (N30–N39), 24.28% (59); inflammatory diseases of the female pelvic organs (N70–N77), 6.58% (16); breast diseases (N60–N64), 3.70% (9); and general examination, contraception, and procreation (Z00–31), 3.70% (9).

As shown in Table 2, of the sociodemographic factors and clinical history, smoking (OR = 2.27, 95%CI 1.05–4.89; p = 0.035) was associated with the referral of climacteric women to higher-complexity services.

The distribution of non-oncological diagnoses in climacteric women (Table 2) shows that the chance of a woman being referred to medium- and high-complexity services was 2 times higher in cases of breast diseases, 2.35 times higher in cases of noninflammatory disorders of the female genital tract, and 3 times higher in cases of inflammatory diseases of the pelvic organs, with no statistically significant difference.

DISCUSSION

Healthcare service evaluation studies characterize the assisted population, identify the referral flow of patients at different levels of healthcare services, and improve the quality of care.

Clinical, sociodemographic, and gynecological

FIGURE 1. DISTRIBUTION OF RECORDS OF WOMEN RESPONSIVE TO PRIMARY CARE AND THOSE REQUIRING TERTIARY CARE.

and obstetric characteristics of patients treated at the Women's Outpatient Health Clinic are similar to those found[3,12-14] in São Paulo and in the Southern Brasil regions. Our results describe climacteric women in transition to late menopause and in the first post-menopause years, with at least two or more associated clinical diseases (hypertension, diabetes, or hypothyroidism), who were multiparous, unemployed, and smokers.

The main healthcare diagnoses in gynecology found in this study were noninflammatory disorders of the female genital tract and diseases of the urinary tract, reflecting the healthcare reality of climacteric women in basic health clinics[15,16].

Noninflammatory disorders of the female genital tract, including abnormal uterine bleeding, have a prevalence of 40-60% in the reproductive period, which may worsen in the late reproductive period due to progressive ovarian[17,18] and physiological dysfunction. Symptoms related to changes in the menstrual cycle can lead to anemia[19], which implies morbidity and mortality[20]. Furthermore, these disorders can affect women's health and cause imbalances in their sexual activity[15,17,18].

Adequate clinical management in primary care becomes relevant to avoid worsening women's health[1,7,21]. In addition, noninflammatory disorders of the female genital tract are the most common non-oncological diagnoses in tertiary care, showing an important financial impact on healthcare systems[3,22]. Thus, clinical outpatient control of these patients through the incorporation of drug therapy (such as levonorgestrel-releasing intrauterine devices and others not yet available in the market, such as progesterone receptor analogues) can be performed in low-complexity services, which is essential for avoiding high costs and reducing morbidity.

Demands related to urogenital dysfunction are common and have negative effects on different aspects of a woman's lives. In this study sample, these demands were assisted at the primary and secondary care levels[16,22]. Health professionals working with women's health in low-complexity settings should be aware and trained in assisting women with non-oncological gynecological diagnoses so that these women can receive adequate clinical management, thereby improving their reproductive and sexual health[7,13].

Inflammatory diseases of the female pelvic organs, breast disorders, general physical examination, contraception, and reproduction were also reported
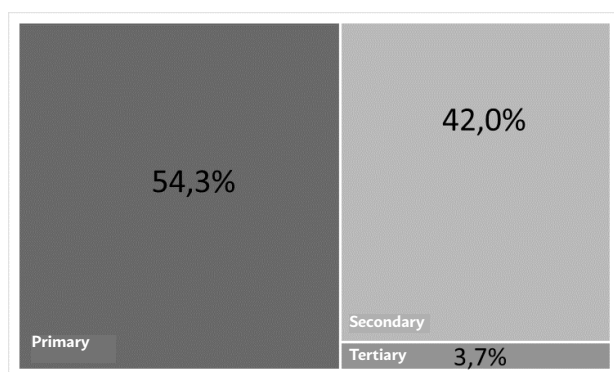
TABLE 2. FACTORS ASSOCIATED WITH THE REFERRAL OF CLIMACTERIC WOMEN TO MEDIUM- AND HIGH-COMPLEXITY SERVICES AT THE WOMEN'S HEALTH OUTPATIENT CLINIC IN THE UNIVERSITY HOSPITAL OF THE UNIVERSITY OF SÃO PAULO (ASM/HU/USP).

Characteristics	Odds	OR (95% CI)	p*
Age (years)			
40–44	1.80	ref.	ref.
45–54	1.56	0.86 (0.46–1.63)	0.664
55–64	3.85	2.14 (0.99–4.60)	0.051
65	1.50	0.83 (0.13–5.32)	0.847
Race			
White	2.02	ref.	ref.
Not white	2.00	0.98 (0.55–1.75)	0.971
Employment			
No	2.70	ref.	ref.
Yes	2.00	0.74 (0.38–1.43)	0.370
Multimorbidity			
No	1.67	ref.	ref.
Yes	2.31	1.37 (0.78–2.42)	0.267
Alcohol consumption			
No	2.08	ref.	ref.
Yes	1.66	0.79 (0.18–3.45)	0.765
Menarche (years)			
8–12	1.50	ref.	ref.
13–16	2.15	1.43 (0.79–2.58)	0.225
>16	3.66	2.44 (0.63–9.34)	0.191
Menopause			
No	1.77	ref.	ref.
Yes	2.55	1.44 (0.82–251)	0.199
Natural age at menopause (years)			
> 40	3.50	ref.	ref.
40–45	4.00	1.14 (0.16–7.76)	0.891
46–54	2.40	0.68 (0.12–3.69)	0.660
55–65	1.50	0.42 (0.06–2.81)	0.377

Characteristics	Odds	OR (95% CI)	p*
Smoker			
No	1.80	ref.	ref.
Yes	4.10	2.27 (1.05–4.89)	0.035
Parity			
Nulliparous	1.33	ref.	ref.
1–2 pregnancies	2.17	1.62 (0.61–4.29)	0.324
3 or more pregnancies	2.09	1.57 (0.61–4.02)	0.346
Active sex life			
No	2.20	ref.	ref.
Yes	2.02	0.91 (0.48–1.74)	0.797
Types of diagnoses			
Urinary tract diseases (N30–N39)			
No	1.09	ref.	ref.
Yes	1.56	0.70 (0.38–1.29)	0.256
Breast Diseases (N60–N64)			
No	1.96	ref.	ref.
Yes	2.00	0.98 (0.23–4.02)	0.979
Inflammatory diseases of female pelvic organs (N70–N77)			
No	4.53	ref.	ref.
Yes	3.00	1.51 (0.47–4.83)	0.488
Non-inflammatory disorders of the female genital tract (N80–N99)			
No	4.00	ref.	ref.
Yes	2.35	1.69 (0.93–3.08)	0.082
General examination, contraception, and procreation (Z00–31)			
No	0.75	ref.	ref.
Yes	1.25	0.60 (0.15–2.30)	0.458

OR: odds ratio; ref: reference category; *logistic regression; **Absence of this diagnosis as reference.

by patients in this study, which corresponds with demands related to the late reproductive period and to sexual activity[5,13].

Benign breast diseases are more likely to be diagnosed during the nonreproductive period. However, it is important to highlight that only clinical complaints of benign breast disorders were evaluated in this outpatient clinic, and clinical management was performed mainly in medium- and high-complexity facilities. This may corroborate the specificity of this entity and emphasize the importance of specialized physicians in healthcare[23].

Patient survey was conducted in a training program with emphasis on women's health and the main areas of investment were identified, such as health education for professionals and encouragement of

multidisciplinary work[3-5]. Thus, this study reinforces the importance of training health professionals in basic healthcare clinics on the climacteric period and on the clinical management of abnormal uterine bleeding and urogenital dysfunction.

The distribution of healthcare service utilization was considered appropriate, according to the literature in countries using hierarchical healthcare levels and universal access, such as the United Kingdom and Canada[24]. The final referral of patients, mostly to the primary sector, is considered satisfactory and expected in a hierarchical health system. However, special attention should be given to the need to optimize services and referral flows at various healthcare system levels to improve healthcare quality, especially regarding women's health[10,11].

A Brazilian study on a medical audit of the prenatal care program in the Southern region of the country showed that the use of epidemiological methods to organize healthcare services is important for improving the quality of care[25].

Descriptive and retrospective studies have their own limitations, especially considering the quality of sociodemographic information records, indeterminate racial classification in Brasil, and clinical data recorded with heterogeneous criteria.

Furthermore, the local demands and use of health services for women's care described in this study may not represent the demands in the Brazilian Unified Health System, because the analyzed outpatient clinic is accredited to a teaching and learning unit.

The novelty of this study lies in its correlation between the main diagnoses in climacteric women's health and the hierarchization of healthcare service levels, associating women's demands and healthcare needs at different healthcare levels. This should benefit the fields of health promotion and medical and interdisciplinary education, highlighting current issues in the daily life of climacteric women and in public health according to healthcare complexity levels.

CONCLUSIONS

Climacteric women aged over 55 years, postmenopausal women, and smokers were most frequently referred to medium- and high-complexity surgical facilities.

Author's Contribution

Isabel Cristina Esposito Sorpreso: concept, data curatorship, formal analysis, research, methodology, project management, software, supervision, validation, visualization, writing (original draft, review, and editing).

Francisco Winter dos Santos Figueiredo: formal analysis, methodology, software, Writing (original draft, review, and editing).

Adna Thaysa Marcial da Silva: data curatorship, methodology, software, writing (original draft, review, and editing).

Juliana Zangirolami-Raimundo: formal analysis, methodology, writing (original draft, review, and editing).

Bhárbara Karolline Rodrigues Silva: formal analysis, methodology, software, writing original draft.

Fernando Adami: formal analysis, methodology, software.

Lea Tami Suzuki Zuchelo: concept, data curatorship, formal analysis, methodology, software, writing (original draft, review, and editing).

Edmund Chada Baracat: concept, data curatorship, project management, supervision, writing (original draft, review, and editing).

José Maria Soares Júnior: formal analysis, methodology, project management, software, supervision, writing (original draft, –review, and editing).

Luiz Carlos de Abreu: project management, supervision, visualization.

RESUMO

INTRODUÇÃO: A associação entre diagnósticos ginecológicos e sua distribuição nos setores de saúde proporciona benefícios no campo da promoção de saúde e na identificação de temas para educação continuada na assistência.

OBJETIVO: Identificar os diagnósticos em saúde e o fluxo de encaminhamento de mulheres no climatério.

MÉTODO: Trata-se de estudo transversal realizado no Ambulatório de Saúde da Mulher do Hospital Universitário da Universidade de São Paulo, de referência em ginecologia e de treinamento para residentes de Medicina de Família e Comunidade, entre 2017-2018. A casuística foi realizada a partir de 274 prontuários de mulheres atendidas e foram processados informações sociodemográficas e clínicas, diagnósticos ginecológicos e distribuição dos serviços de saúde (primário, secundário e terciário). O teste qui-quadrado e razão de chance foram utilizados para estatística.

RESULTADOS: O tabagismo (OR=2,27, IC95% 1,05;4,89, p=0,035) foi associado ao encaminhamento de mulheres no climatério para a maior complexidade. Em relação aos tipos de diagnóstico, a chance de serem encaminhadas para a média e alta complexidade foi de 135% (OR=1,69, IC95% 0,93;3,08) nos transtornos não inflamatórios do trato genital feminino, 200% (OR=0,98, IC95% 0,23;4,02) nas doenças da mama, 300% (OR=1,51, IC95% 0,47;4,83) nos transtornos inflamatórios do trato genital feminino, sem predomínio entre os diagnósticos.

CONCLUSÃO: As mulheres climatéricas e na pós-menopausa acima de 50 anos e tabagistas com diagnósticos de transtornos não inflamatórios do trato genital feminino e inflamatórios, bem como doenças da mama, foram as mais direcionadas para ambulatório cirúrgico na média e alta complexidade.

PALAVRAS-CHAVE: Serviços de saúde. Ginecologia. Saúde da mulher. Níveis de atenção à saúde. Sistemas de saúde.

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