Preventive Medicine 67 (2014) 242–247

Contents lists available at ScienceDirect

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed

Patient and physician gender concordance in preventive care in university primary care settings

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ARTICLE INFO

Available online 10 August 2014

Keywords:
Patient physician gender concordance
Primary health care
Preventive care
Women's health

ABSTRACT

Objective. To assess the quality of preventive care according to physician and patient gender in a country with universal health care coverage.

Methods. We assessed a retrospective cohort study of 1001 randomly selected patients aged 50–80 years followed over 2 years (2005–2006) in 4 Swiss university primary care settings (Basel, Geneva, Lausanne, Zürich). We used indicators derived from RAND's Quality Assessment Tools and examined percentages of recommended preventive care. Results were adjusted using hierarchical multivariate logistic regression models.

Results. 1001 patients (44% women) were followed by 189 physicians (52% women). Female patients received less preventive care than male patients (65.2% vs. 72.1%, $p < 0.001$). Female physicians provided significantly more preventive care than male physicians ($p = 0.01$) to both female (66.7% vs. 63.6%) and male patients (73.4% vs. 70.7%). After multivariate adjustment, differences according to physician ($p = 0.02$) and patient gender ($p < 0.001$) remained statistically significant. Female physicians provided more recommended cancer screening than male physicians (78.4 vs. 71.9%, $p = 0.01$).

Conclusions. In Swiss university primary care settings, female patients receive less preventive care than male patients, with female physicians providing more preventive care than male physicians. Greater attention should be paid to female patients in preventive care and to why female physicians tend to provide better preventive care.

Introduction

The proportion of female physicians has increased over the last decades, particularly in primary care (Phillips and Austin, 2009). Several studies have reported physician gender differences in preventive health care, especially for gender-specific preventive services (e.g. screening mammograms, Pap smears) or chronic disease care (Schmittdiel et al., 2009; Lurie et al., 1993; Roter et al., 2002). However, only limited data exist on the role of patient and physician gender and gender concordance in the broad spectrum of preventive care (Franks and Bertakis, 2003; Flocke and Gilchrist, 2005; Henderson and Weisman, 2001). Since the time of these studies, standard indicators of quality of preventive and chronic disease care have been developed and evaluated in the United States, such as the RAND's Quality Assessment Tools, a quality assessment system consisting of over 30 conditions and prevention items (McGlynn et al., 2003; Asch et al., 2006). However, continental Europe and more specifically Switzerland, a country with universal healthcare coverage, have limited documentation about the quality of preventive care, and have no data on the quality of preventive care according to gender. Switzerland differs from the US healthcare system on several points. Switzerland has universal healthcare coverage with no standardized

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http://dx.doi.org/10.1016/j.ypmed.2014.08.004
0091-7435/

preventive recommendations, systematic performance monitoring, annual reports on quality of care or financial incentives.

Among a random sample of 1001 patients followed in 4 university primary care settings in Switzerland, we aimed to examine gender influences in preventive care, to assess the association between physician gender, patient–physician gender concordance and the quality of preventive care measured by standard indicators of quality of preventive care. Our hypothesis was that there would be no differences between patient and physician gender.

Methods

Study design and patients

Detailed methodology was previously described by Collet et al. (2011). We abstracted medical charts from a random sample of 1001 patients followed for at least one year by primary care practitioners in 4 Swiss university primary care settings (Basel, Geneva, Lausanne and Zürich) in a retrospective cohort study. The random sample was identified from electronic administrative data of all patients aged 50 to 80 years followed in 2005–2006. We limited our sample to this age group to have a high prevalence of examined indicators (e.g. eligibility for cancer screening or influence immunization). Among 1889 initially identified patients, 54 charts could not be found, probably because the patients decided to leave the university clinical setting for another primary care practice, 591 had <1 year follow-up in the primary care setting during the review period, 125 patients had no visit to a primary care physician during the analyzed period and 117 were followed only in a specialized clinic. To have adequate follow-up time and data to assess provided preventive care services, patients who were followed in the primary care setting for <1 year were excluded. Finally, the sample included 1002 abstracted medical charts. Because of missing data on one physician, we had to exclude one last patient, which led to a final sample of 1001 patients. As this cohort study mainly aimed at assessing rates of preventive care, there was no formal sample size calculation. We used a convenience sample for this study, with similar number of participants to a previous study on quality of care indicators (Kerr et al., 2003). This study was approved by the Ethics Committee of Basel, the Human Research Ethics Committee of Geneva, the Human Research Ethics Committee of Vaud, and the Ethics Committee of Zürich, at the sites of Basel, Geneva, Lausanne, and Zürich respectively. Because of the retrospective cohort design and the anonymization of patient data, individual patient consent was waived by the approving Institutional Review Boards.

Quality indicators

As previously reported (Collet et al., 2011), we used 14 quality indicators derived from the English version of RAND's Quality Assessment Tools pertaining to preventive care (physical examination: 3 indicators; health behavioral counseling: 7 indicators; cancer screening: 2 indicators; influenza immunization: 2 indicators) and calculated percentages of recommended preventive care according to physician and patient gender. We did not use translation of the RAND's Quality Assessment Tools, as there was no validated version of this tool in official Swiss languages (German, French, Italian and Romansh). The selected indicators focused on processes of care, because they represent the activities that clinicians control most directly (McGlynn et al., 2003). We did not include preventive care indicators that were not applicable to the Swiss primary practitioner care settings (e.g., pregnancy follow-up or Pap smear not performed in university primary care settings in Switzerland) (Collet et al., 2011). To balance the groups for the potential of preventive care according to gender, we performed a sensitivity analysis excluding breast cancer, as all other indicators applied equally to both gender.

Chart abstraction

A data abstraction form was created to assess the 14 selected indicators for preventive care derived from RAND's Quality Assessment Tools (Collet et al., 2011). Other abstracted covariates (e.g. demographics) were based on a chart abstraction form from the TRIAD study (Translating Research into Action for Diabetes), a study designed to assess the quality of diabetes care in the United States (Kerr et al., 2004). Nine medical students were centrally trained for direct data abstraction from paper medical charts in the four Swiss university primary care settings.

Table 1
Baseline characteristics of 1001 adults aged 50–80 years in 4 Swiss university primary care settings (Basel, Geneva, Lausanne, Zürich) followed over 2 years (2005–2006).

	All	99 female physicians	90 male physicians	p-Value for difference
Gender, n (%)				0.08
Female	444 (44.4)	255 (46.9)	189 (41.4)	
Male	557 (55.6)	289 (53.1)	268 (58.6)	
Age, mean (SD)	63.5 (8.3)	63.4 (8.4)	63.5 (8.1)	0.83
Civil status, n (%)				0.06
Married	506 (51.0)	292 (54.3)	214 (47.1)	
Divorced, separated	232 (23.4)	109 (20.3)	123 (27.1)	
Single	151 (15.2)	80 (14.9)	71 (15.6)	
Widow, -er	103 (10.4)	57 (10.6)	46 (10.1)	
Birth place, n (%)				0.30
Switzerland	458 (46.2)	251 (46.8)	207 (45.5)	
Europe	195 (19.7)	100 (18.7)	95 (20.9)	
Eastern Europe	177 (17.8)	99 (18.5)	78 (17.1)	
Africa	59 (6.0)	38 (7.1)	21 (4.6)	
Latin America	53 (5.4)	23 (4.3)	30 (6.6)	
Other	49 (4.9)	25 (4.7)	24 (5.3)	
Social status, n (%)				0.28
Swiss	559 (57.9)	305 (58.4)	254 (57.3)	
Residence permit	325 (33.7)	180 (34.5)	145 (32.7)	
Asylum seeker, immigrant	81 (8.4)	37 (7.1)	44 (9.9)	
Occupation, n (%)				0.60
Retired	371 (37.8)	201 (37.4)	170 (38.3)	
Employed	285 (29.1)	158 (29.4)	127 (28.6)	
At home, in education	115 (11.7)	70 (13.0)	45 (10.1)	
Social aid	109 (11.1)	56 (10.4)	53 (11.9)	
Unemployed, other	101 (10.3)	52 (9.7)	49 (11.0)	
Confession, n (%)				0.85
Catholic	236 (35.9)	126 (35.1)	110 (36.8)	
Protestant	112 (17.0)	65 (18.1)	47 (15.7)	
Muslim	111 (16.9)	63 (17.6)	48 (16.1)	
Other	105 (16.0)	57 (15.9)	48 (16.1)	
None	94 (14.3)	48 (13.4)	46 (15.4)	
BMI, n (%)				0.90
<30 kg/m^2	471 (47.0)	255 (46.9)	216 (47.3)	
≥30 kg/m^2	530 (53.0)	289 (53.1)	241 (52.7)	
N of visits, median (IR)	10 (7–15)	10 (7–15)	10 (7–15)	0.64

Abbreviations: N, number; SD, standard deviation; BMI, body mass index; IR, interquartile range.

Statistical analysis

For each selected indicator of preventive care, we calculated the percentage of provided care by dividing all episodes in which recommended care was delivered by the number of times patients were eligible for indicators (overall percentage method) (Reeves et al., 2007). To focus on the physicians' behavior, preventive care was considered provided, regardless of whether the patient accepted the recommendations or not. The results were presented as percentages

Table 2
Baseline characteristics of physicians according to their gender in 4 Swiss university primary care settings (Basel, Geneva, Lausanne, Zürich) followed over 2 years (2005–2006).

	All N = 189	Female physician N = 99	Male physician N = 90	p-Value for difference
Age, mean (SD)	34.2 (5.7)	33.6 (4.4)	34.9 (6.9)	0.14
Function, n (%)				0.05
Resident	179 (94.7)	97 (98.0)	82 (91.1)	
Attending	10 (5.3)	2 (2.0)	8 (8.9)	
University primary care settings, n (%)				0.10
Basel	45 (23.8)	18 (18.2)	27 (30.0)	
Geneva	58 (30.7)	37 (37.4)	21 (23.3)	
Lausanne	46 (24.3)	22 (22.2)	24 (26.7)	
Zürich	40 (21.2)	22 (22.2)	18 (20.0)	

Abbreviations: N, number; SD, standard deviation.