Auditing of Continuity Care Clinics in Family Medicine Residency Program in Qatar

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Abstract

Background

Continuity of Care is the process by which the patient and the physician are cooperatively involved in ongoing health care management towards achieving the goal of providing high quality, cost-effective medical care. Continuity of Care is rooted in a long-term patient-physician partnership and facilitated by a physician-led, team-based approach to health care.

Objective of the Study

To audit resident performance in preventive, curative and health promotion activities to improve patient care standards.

Methods

A descriptive cross sectional study was conducted to audit resident performance in Continuity of Care. This study was conducted at the Primary Health Care Corporation in Qatar, where Continuity of Care takes place in the West Bay Health Center and other primary health care centers. Specialists and consultants in family medicine supervised the study. It included all patient encounters audited in the last practice management activity that took place from April-June of 2016. The sample size was 280 audited patient encounters.

Results

Screening, preventive and outcome measures of eligible patients in the Continuity of Care Clinic shows that: 97.76% were screened for Hypertension, 94.32% for Diabetes, 89.45% for lipid, 84.45% for depression, 68.29% for Osteoporosis, while cancer screening reached 56.16% for breast cancer, 48.39% for colon cancer and 42.72% for cervical cancer.

For the vaccination, the percentage of influenza vaccine coverage reached 62.84% and pneumococcal vaccine reached 67.83%. The counselling regarding smoking reached 92.68%, weight reduction counselling reached 96.71%, and lifestyle modification regard (diet + exercise) reached 97.6%. The outcome measures regarding Hypertension control reached 83.5%, Diabetes control reached 54.5%, Hypertension control in diabetes reached 83.6%, ASCVD calculation reached 76.9% and ASCVD management reached 81.7%.

Conclusion

The current study revealed that quality of care in Continuity of Care clinics in the Family Medicine program is adequate; however, more attention must be paid to cancer screening and vaccination.

Keywords

Auditing; Continuity of Care; Family Medicine Program; Qatar

Abbreviations

ASCVD: Atherosclerotic Cardiovascular Disease
ACGMEI: Accreditation Council General Medical Education
HTN: Hypertension

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DM: Diabetes Mellitus
ADA: American Diabetes Association
HBA1c: Glycosylated Hemoglobin
PCV: Pneumococcal Vaccine

Introduction

Continuity of Care has been regarded as a fundamental part of the work of the General Practitioner and considered as a corner stone element of primary care. It is included in the characteristics of the discipline of General Practice/Family Medicine stated by the World Organization of Family Doctors and in the European definition of General Practice/Family Medicine [1].

The concept of Continuity of Care in Family Medicine, first described by Hennen, had 4 domains: chronological, geographical, interdisciplinary, and interpersonal; while Reid and colleagues later described informational, relational, and management continuity [2].

Many studies have shown the health benefits of Continuity of Care in Primary Care. A primary care organization with high Continuity of Care had lower rates of hospital admissions and was associated with more effective prevention [3].

The evidence for Continuity of Care as a core-dimension of quality in primary care is described by Kringos et al [4]. ‘The Strength of Primary Care in Europe’, which summarized six studies and seven literature reviews as showing: a positive association between continuity and improved care co-ordination, continuity consistently related to improved preventive services, continuity assures high quality of care, continuity can be cost-effective in primary care, continuity can ensure greater efficiency of services and a relation between Continuity of Care and improved patient satisfaction.

Several studies have been carried out, principally in the area of General Practice, which address the importance of Continuity of Care. Key studies in Norway showed that continuous care not only increased patient satisfaction but also allowed the doctor to accumulate knowledge that saved time, influenced their use of laboratory tests and allowed for expectant management [5].

The Continuity of Care Clinic is a three-year mandatory activity stated by the Accreditation Council of Graduate Medical Education (ACGME-I) that exposes the residents to the patient management cycle from presentation to discharge with special emphasis on the Continuity of Care throughout the health care system. During the rotation in the Continuity of Care clinics, the resident trained to implement different consultation models to patients of all ages & both genders with a wide range of diverse presentations. The resident is exposed to the pillars of the comprehensive care, which are a preventive, curative, and health promotion.

The Continuity of Care Clinics were established in the Family Medicine Department, Primary Health Corporation in October 2012. The total number of these clinics is 18, the number of residents is 30, each resident in year one runs one clinic weekly supervised by one faculty, a resident in year two runs two clinics weekly in which two residents are supervised by one faculty, a resident in year three runs three clinics weekly in which three residents are supervised by one faculty.

For the purpose of monitoring and evaluation of resident performance, regular auditing takes place every three months by concerned faculty members through a process called the ‘practice management activity analysis’ including auditing certain parameters of care to ensure comprehensive care modeling.

Auditing Continuity of Care Clinics will enable us to evaluate resident performance in preventive, curative and health promotion activities that will help us to detect weaknesses in care and improving this care to suitable standards.

Objective of the Study

A) To audit resident performance in preventive activity regard screening of common diseases
B) To evaluate curative activity in continuity of care clinics
C) To assess health promotion activities in continuity of care clinics

Materials and Methods

Study Design

Descriptive cross sectional study to audit resident performance in Continuity of Care in Primary Health Care Centers in Qatar.

Study Setting

This study was conducted at the PHCC in Qatar, where Continuity of Care takes place in the West Bay Health Center and other primary health care centers supervised.
by specialists or consultants in Family Medicine. These clinics are scheduled to be one to two clinics in each health center arranged in morning or evening duty according to each health centers’ circumstances and demographics, the capacity of each clinic reached an average of 10 patients per clinic session.

Study Subjects
Included all patient encounters audited in the last practice management activity that took place from April to June of 2016.

Sampling
The sample size was 280 patient encounters, as ten file audits, needed from each faculty to assess resident performance in comprehensive care aspects; it is target non-probability sample.

Methods and Data Collection
The data collection procedure involved the audit form prepared by the practice management committee and it includes the following:

1. General Information
   Patient age, gender, and diagnosis

2. Screening Activity:
   Screening for hypertension (HTN) in Adults, Screening for Diabetes Mellitus (DM) in Adults according to the American Diabetes Association (ADA), Screening for Lipid Disorders in Adults > 20 years, Screening for Depression in Adolescents and Adults, Screening for Osteoporosis using Bone Mineral Density, Screening for Breast Cancer in Women using Breast Mammography from 40 years or more, Screening for Colorectal Cancer from 50 Years to 75 Years, Screening for Cervical Cancer in Women using Pap Smear, most recommendations adapted from united states preventive service task force (USPSTF) recommendations.

3. Vaccination in Adults
   The Influenza Vaccine is given during the known effective duration (Annually from September to January), Pneumococcal Vaccine (PCV) is given to the Recommended Risk Groups according to CDC recommendations.

4. Health Education and Counseling
   Smoking cessation, lifestyle modification (diet and exercise), and weight management.

5. Clinical Outcome Measures
   HTN Patient with blood pressure < 140/90, Diabetic Patients with glycosylated hemoglobin (HbA1c) within Normal according to ADA Criteria, Diabetic Patients with Blood Pressure Less than 140/90, Assessment of Atherosclerotic Cardiovascular Disease Risk (ASCVD), Patient Management Plan is Consistent with Estimated ASCVD.

Statistical Analysis
Data collected had been analyzed using Epi Info and suitable tables and figures for different variables will be used.

Ethical Consideration
This study is approved from the institutional ethics committee from primary health corporation in Qatar

Results

<table>
<thead>
<tr>
<th></th>
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<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>223</td>
<td>57</td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>176</td>
<td>104</td>
</tr>
<tr>
<td>Lipid</td>
<td>218</td>
<td>62</td>
</tr>
<tr>
<td>Depression</td>
<td>240</td>
<td>40</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>41</td>
<td>239</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>73</td>
<td>207</td>
</tr>
<tr>
<td>Colon Cancer</td>
<td>93</td>
<td>187</td>
</tr>
<tr>
<td>Cervical Cancer</td>
<td>103</td>
<td>177</td>
</tr>
<tr>
<td>Influenza Vaccine</td>
<td>218</td>
<td>62</td>
</tr>
<tr>
<td>Pneumococcal Vaccine</td>
<td>116</td>
<td>164</td>
</tr>
</tbody>
</table>

Table 1: Patient Eligibility Characters for Screening and Vaccination
Table 1 shows patient eligibility characters for screening and vaccination. 79.64% eligible for hypertension screening, 62.86% for diabetes, 77.86% for lipids, 85.75% for depression, 14.64% for osteoporosis, 26.07% for breast cancer, 33.2% for colon cancer, 36.79% for cervical cancer, 73.86% for influenza vaccine and 42.43% for pneumococcal vaccine.

Table 2: Screening, Preventive and Outcome Measures of eligible patients in Continuity of Care Clinic

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>97.76%</th>
<th>PCV</th>
<th>Yes</th>
<th>67.83%</th>
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</thead>
<tbody>
<tr>
<td>HTN</td>
<td>NO</td>
<td>2.24%</td>
<td>NO</td>
<td>32.17%</td>
<td></td>
</tr>
<tr>
<td>DM</td>
<td>Yes</td>
<td>94.32%</td>
<td>SMOKING</td>
<td>Yes</td>
<td>92.68%</td>
</tr>
<tr>
<td>LIPID</td>
<td>Yes</td>
<td>89.45%</td>
<td>WEIGHT</td>
<td>Yes</td>
<td>96.71%</td>
</tr>
<tr>
<td>Depression</td>
<td>Yes</td>
<td>84.10%</td>
<td>LIFESTYLE</td>
<td>Yes</td>
<td>97.60%</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>Yes</td>
<td>68.29%</td>
<td>HTN CONTROL</td>
<td>Yes</td>
<td>83.50%</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>Yes</td>
<td>56.16%</td>
<td>DM CONTROL</td>
<td>Yes</td>
<td>54.50%</td>
</tr>
<tr>
<td>Colon Cancer</td>
<td>Yes</td>
<td>48.39%</td>
<td>HTN CONTROL IN DM</td>
<td>Yes</td>
<td>83.60%</td>
</tr>
<tr>
<td>Cervical Cancer</td>
<td>Yes</td>
<td>42.72%</td>
<td>ASCVD CALCULATION</td>
<td>Yes</td>
<td>76.90%</td>
</tr>
<tr>
<td>Influenza</td>
<td>Yes</td>
<td>62.84%</td>
<td>ASCVD MANAGEMENT</td>
<td>Yes</td>
<td>81.70%</td>
</tr>
</tbody>
</table>

Table 2 shows screening, preventive and outcome measures of eligible patients in Continuity of Care Clinic, 97.76% screened for hypertension, 94.32% for diabetes, 89.45% for lipids, 84.45% for depression, 68.29% for osteoporosis, while cancer screening reached 56.16% for breast cancer, 48.39% for colon cancer, 42.72% for cervical cancer.

Figure 1: Screening Indicators in Continuity of Care Clinic
Figure 1 for the vaccination the percentage of influenza vaccine reached 62.84% and pneumococcal vaccine reached 67.83%. The counselling regard smoking reached 92.68%, weight reduction counselling reached 96.71%, and lifestyle modification regard (diet + exercise) reached 97.6%.

**Figure 2: Vaccination and Preventive Activity Indicators**

![Vaccination and Preventive Activity Indicators](image)

The outcome measures regard Hypertension control reached 83.5%, Diabetes control reached 54.5%, Hypertension control in diabetes reached 83.6%, ASCVD calculation reached 76.9% and ASCVD management reached 81.7%.

**Figure 3: Outcome Indicators in Continuity of Care Clinic**

![Outcome Indicators in Continuity of Care Clinic](image)

Discussion  
Regarding depression screening in this study it is apparent that screening for depression is adequate, reflecting residency program awareness and the primary care strategy for mental health applying continuity of care concepts reaching 84.45% among eligible patients, this agrees with. Solberg found that with better continuity and increased accessibility more patients received acute and maintenance treatment for depression [6]. Another study of depression in general practice, the therapeutic effect of regular, continuous visits was equal to specific serotonin reuptake inhibitor treatment [7].

This study revealed 68.29% of elderly screened for osteoporosis, which pick fracture risk and mortality due to this effect, which coincide with study revealing that continuity of care with a primary care physician among older adults showed greater reductions in mortality with increasing continuity [8].

The current study concluded that cancer screening reached 56.16% for breast cancer, 48.39% for colon cancer, 42.72% for cervical cancer, which is considered appropriate but still has room for improvement. These findings correlate with this study stating that Continuity of Care has been associated with an increased rate of cancer screening, while trust with a regular physician was associated with earlier detection of cancer [9]. Another study showed that women who experienced longitudinal continuity over one year were more than four times as likely to have had a Papanicolaou smear test for early diagnosis of cervical cancer, twice as likely to have had a breast examination, and three times as likely to have had a mammogram compared with those without [10]. The willingness to undertake cancer screening is higher in patients with a regular care provider and longitudinal continuity has been associated with stricter adherence to recommended screening among patients with colorectal cancer [11].

The counseling regarding smoking in this study reached 92.68%, weight reduction counseling reached 96.71%, and health education regarding lifestyle modification (diet + exercise) reached 97.6%. This result matches Steven et al [12]. In Australia who found patients that only visited one practice on a regular basis, were significantly more likely to report for blood pressure, cholesterol screening, and to follow smoking cessation, exercise and dietary advices.

The outcome measures regarding Hypertension control reached 83.5%, Diabetes control reached 54.5%, and Hypertension control in Diabetes reached 83.6%. Furthermore, it has been shown that continuity with a GP for hypertensive patients is associated with a lower chance of developing hypertension-related complications, such as stroke, congestive heart failure and acute myocardial infarction [13]. In Type 2-Diabetes, relational and longitudinal continuity could decrease Diabetes-related
complications and improve the quality of life [14].

Limitations

The limitations are the geographical and demographic profile of this study. It is a specific audit of resident performance in the Family Medicine resident program of Qatar. Being part of the Primary Health Care Corporation allows participants to facilitate different resources and affordable cost of care, which may not be available for the scope of other programs. These factors may limit its generalizability, but simultaneously draw a framework for other similar programs.

Patient and doctor relationship is not well addressed or assessed which is the active component in continuity of care aspects.

Conclusions

The current study revealed that quality of care in Continuity of Care clinics in the Family Medicine program is adequate; however, more attention must be paid to cancer screening and vaccination.

Conflict of Interest

There are no organizations with conflict of interests related to the study.

Acknowledgement

We would like to acknowledge all Family Medicine faculty members and residents in the Family Medicine residency program.

References


