

Review

Effect of Continuity of Care on Chronic Diseases

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Abstract

Chronic diseases are quite prevalent and are associated with grave repercussions and considerable target organ dysfunction. Providing such patients with high-quality care can significantly lower their morbidity and mortality risk. Early disease detection, frequently when the patients are generally asymptomatic, is necessary for the provision of proper care that could reduce the chances of hazardous consequences and complications. The arrangement of care delivery with continuity of care has been shown to provide many health benefits. Numerous beneficial health outcomes have been linked to the continuity of care way of structuring the delivery of care. Continuity of care is defined as the process by which the patient and his or her physician care team work together to manage their ongoing medical care in order to achieve the shared purpose of high-quality, affordable healthcare. Additionally, continuity of care is associated with increased follow-up appointment compliance, more frequent cancer screenings, prevention programs usage, fewer emergency room visits, less hospital admissions, among various others. The continuity of care is influenced by a variety of factors, including equity and effectiveness as well as the quality of care throughout time. Research studies have shown that greater treatment continuity is associated with better mental health, a greater sense of satisfaction, and a higher quality of life. Although, the overuse of medical resources, especially through the provision of unnecessary services, is associated with poor continuity of care. The purpose of this research is to review the available information about the effect of continuity of care on chronic diseases.

Keywords: *continuity, care, chronic, disease*

Introduction

The World Health Organization defines chronic disease as a disease lasting a prolonged duration, typically progressing slowly, and not being spread from person to person. The number of years lived with disability increased significantly between 1990 and 2013, as per the Global Burden of Disease study from 2013. Since no infectious diseases were among the top 20 global causes of years lived with disability in 2013, non-communicable diseases were to blame for the overwhelming majority of these cases. Multimorbidity for chronic conditions is common in developed nations. As healthcare systems around the world have generally evolved to cope with acute episodic treatment rather than to offer structured care for patients with long-term diseases, addressing chronic disease is a critical challenge. Chronic diseases are characterized by the frequent need for prolonged supervision, observation, or care (1).

It is challenging to develop healthcare systems that provide high-quality care for managing chronic diseases over extended periods of time. A crucial component of the care processes required to guarantee high-quality results relevant to providers as well as to patients and their families is continuity of patient care. Continuity of care is frequently viewed as advantageous and considered vital to be encouraged in the planning and provision of healthcare services. Although it is disease-specific, continuity of care, which is defined as ongoing communication with a primary care provider, has been linked to earlier detection of chronic illnesses, fewer hospitalizations, and higher standards of treatment (2). Continuity of care is defined as the process by which the patient and his or her physician care team work together to manage their ongoing medical care in order to achieve the shared purpose of high-quality, affordable healthcare. Every discipline's continuity is further divided into three categories relationship, management, and informational (3).

It is important to investigate if continuity impacts the development of multimorbidity itself and to what extent, given the rising incidence of multimorbidity and the implications associated with the accumulation of chronic diseases. This may help direct efforts to prevent its onset. The majority of earlier studies have focused on the sociodemographic and behavioural factors that influence multimorbidity. The improvement of patient health behaviours and the start of more consolidated treatment regimens, however, could make higher continuity related to better health. This would delay the onset of other

diseases and related comorbidities. Cross-sectional studies that focus on continuity as a result rather than an exposure have been conducted in order to examine the relationship between continuity and the progression of disease. While having multiple conditions can legitimately necessitate the involvement of more physicians, increasing the risk of care discontinuity, continuity of care itself may actually be preventative of future conditions by supporting self-management and fostering a strong, trusting relationship that increases treatment adherence (4). The purpose of this research is to review the available information about effect of continuity of care on chronic diseases.

Methodology

This study is based on a comprehensive literature search conducted on December 24, 2022, in the Medline and Cochrane databases, utilizing the medical topic headings (MeSH) and a combination of all available related terms, according to the database. To prevent missing any possible research, a manual search for publications was conducted through Google Scholar, using the reference lists of the previously listed papers as a starting point. We looked for valuable information in papers that discussed the information about the effect of continuity of care on chronic diseases. There were no restrictions on date, language, participant age, or type of publication.

Discussion

Informational, management and interpersonal continuity are the three clearly defined categories of continuity of care. Informational continuity is when prior patient data is accessible often via a patient chart or an electronic medical record and used to deliver care that is suitable for the patient. A number of healthcare providers working in various contexts should ideally have access to patient information. Management continuity refers to using standards and norms helps to guarantee that care is delivered in an organized, cogent, complementary, and timely manner. This is frequently true when numerous clinicians are involved in the patient's care. This also involves adaptability to care needs, consistency of care, and care transitions. The ongoing interaction between the healthcare professional and the patient is referred to as relationship continuity. It relates to the length of the relationship as well as its quality, both of which are influenced by the healthcare provider's attention to detail, ability to instil confidence in others, and medical expertise (5, 6). Two of the five common themes that appeared across all disciplines create clear standards for measurement and separate continuity from other

healthcare features. These components include providing individualized patient care as well as ongoing care. Although both components are necessary for continuity to exist, their presence alone does not make continuity exist. The notion that clinicians are aware of past events, that different providers have agreed on a management strategy, and that a provider who is familiar with them will give care in the future is what patients and their families experience as continuity (7).

Evidence from literature

The quality of care throughout time, along with equity and effectiveness, are all factors in the continuity of care. Care continuity has been examined in some empirical research from the standpoint of cancer patients. Higher care continuity is linked to improved mental health, a stronger sense of happiness, and a higher quality of life, as per the previous research studies. However, poor continuity of care is linked to the overuse of medical resources, particularly through the use of needless services (8). Chan et al. described that compared to health indicators like HbA1c and blood pressure, the positive impacts of continuity of care were reported more frequently for service utilization, mortality, and disease-related sequelae. When there is a high level of continuity of care, healthcare personnel are better able to communicate with their patients and as a result have a better understanding of the disease history and present circumstances of their patients, which may not be included in the patient's medical records. Greater continuity of treatment, which included more HbA1c testing and eye or foot exams, was linked to improved quality care among diabetes patients. As a result, it may be less probable for patients' diseases to deteriorate without being seen or treated. Additionally, continuity of treatment enhances patient satisfaction and encourages greater patient self-care behaviours, compliance, and adherence to physicians' recommendations and regimes, which may contribute to a decrease in avoidable hospital admissions (9, 10).

Wang et al. reported that age, sex, urbanization level, socioeconomic status, emergency visits, hospitalizations, psychological disorders, chronic diseases, and catastrophic illness cards were all significantly associated with continuity of care index; those with low continuity of care index were likely to use outpatient care very frequently. The greatest strategy to improve continuity of treatment is to develop the practice of family medicine in primary care (11). Results of a meta-analysis showed that the continuity interventions were linked to lower readmission rates at 1 month after

discharge in patients in the experimental group (12.9%) compared to patients in the control group (16%). In the experimental group, readmission rates were lower from 1 to 3 months (21.9%) compared to patients in the control group (29.8%). This beneficial effect was more pronounced when the interventions addressed every aspect of continuity, according to a subgroup analysis. After three months, the impact showed moderate to high statistical heterogeneity and was therefore inconclusive. In older persons with chronic conditions, continuity of care initiatives reduce short-term hospital readmissions (12).

Results of a study by King et al. revealed that experiencing continuity includes getting constant attention and time, understanding what to anticipate in the future, adjusting between service contacts, handling family implications, and believing nothing has been forgotten. Changes in experienced continuity were not related to transitions between treatment periods. However, after adjusting for other potential explanatory factors, better experienced continuity predicted reduced care needs (13). Chhatre et al. concluded in their findings that higher continuity of care was linked to better outcomes, and there was a significant interaction between race and continuity of care. The disparity in care between races for prostate cancer may be reduced by continuity of care during the acute survival phase (14).

Lee et al. described that low continuity of care is linked to an increased risk of myocardial infarction, stable or unstable angina, ischemic stroke, or transient ischemic attack in newly diagnosed dyslipidemic patients. A medical staff's perspective is that patients in the high continuity of care category may engage with staff members frequently, increasing the likelihood that staff will deliver high-quality care. From the patient's perspective, the medical personnel are more likely to be regarded favourably, which may enhance management and interpersonal trust as well as therapeutic outcomes. Authors further suggested that improved continuity of care may lower patients with dyslipidemia's chances of adverse cardiac events, which would result in less need for expensive healthcare services and associated expenditures (15). Similarly, Choi et al. reported in their findings that patients in the highest quartile of the continuity of care index had a lower risk of cardiovascular diseases and stroke as compared to those in the lowest quartile. Patients with hypertension who received consistent care reported better drug adherence and a lower risk of stroke and cardiovascular disease. To lower the risk of cardiovascular diseases among

hypertension patients, it is crucial to maintain continuity of care (16).

Chen CC and Chen SH revealed that individuals with high or medium continuity of care index scores were less likely to be hospitalized for diabetes-related illnesses or to visit the emergency room for diabetes-related issues compared to patients with low continuity of care index scores. Pharmaceutical costs were higher for patients with poor continuity of care index scores compared to patients with high continuity of care index scores. Furthermore, compared to patients with low continuity of care index scores, patients with high continuity of care index scores saved more money overall on medical expenses for diseases linked to diabetes. For diabetic patients, better continuity of treatment was linked to lower healthcare consumption and costs. Patients with diabetes may benefit from better continuity of care (17). Findings from a study by Mainous et al. depicted that continuity of care was linked to both acceptable and ideal glycemic control levels. In any of the examined outcomes, there was no difference between having a typical site but an uncommon provider and having a typical provider. Better glycemic control in diabetic patients is related to continuity of care. It's possible that access to care alone will produce superior results in terms of managing chronic conditions. Even though patients prefer continuity of care, interpersonal outcomes may benefit more from a long-term patient-physician connection than illness control (18).

Continuity of care also possesses certain disadvantages. Patients who knew their physicians well sometimes convinced them to do more because they felt more empowered, and these physicians responded by trying to do more for such patients. Therefore, interpersonal continuity in such situations is not cost-effective. Also, sometimes a physician who sees a patient frequently may overlook the disease's slow progression, whereas a physician who has not seen the patient before may be able to recognize it. The relationships between team members or between any team member and the patient could become problematic within the setting of team continuity. When a different healthcare provider has to know what is already known or has been inferred about the patient, the accessibility of medical records, including electronic records, is crucial. However, it is impossible to guarantee the security and confidentiality of electronic information, especially if it is shared via a network between several healthcare organizations (19). Similarly, Ridd et al. demonstrated in their findings that a slightly later colorectal cancer diagnosis was linked to

patient-doctor continuity in the 24 months before to diagnosis, but not breast or lung cancer. According to secondary analyses, continuity of care before the index consultation was linked to a delayed diagnosis for colorectal and lung cancer, but continuity after the index consultation was linked to an earlier diagnosis, with no similar effects for breast cancer. The majority of the time between referral and diagnosis happened for all three malignancies. However, any impact on the patient-physician relationship seems to be minimal (20). Studies assessing the impact or effect of continuity of care on chronic diseases are quite limited which advocates the need for further research to primarily focus on the assessment of effectiveness of continuity of care and its outcome.

Conclusion

Chronic diseases are a global health challenge since they are linked to significant morbidity and mortality additionally associated with high healthcare cost so their management and early diagnosis is of utmost importance. Continuity of care has shown to produce optimal healthcare outcomes for patients suffering from chronic diseases hence playing a vital role in its management although further research is needed to generate evidence-based results.

Disclosure

Conflict of interest

There is no conflict of interest

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Ethical consideration

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Data availability

Data that support the findings of this study are embedded within the manuscript.

Author contribution

All authors contributed to conceptualizing, data drafting, collection and final writing of the manuscript.

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