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Original Article

Self-Management as a Determinant in Reducing Gastritis Recurrence: A Chronic Care Model Approach

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Abstract

Gastritis is one of the diseases of the digestive system with a high prevalence of recurrence. Irregular lifestyles, academic stress, and low self-management skills are the main factors that trigger relapse. *The Chronic Care Model (CCM)* has a conceptual framework in the management of chronic diseases including gastritis. This study aims to analyze factors related to gastritis recurrence based on the CCM approach in nursing students. This study used a *cross-sectional* quantitative design with a total of 30 respondents in young adulthood. The results showed that most of the respondents (86.7%) experienced a recurrence of gastritis in the last six months. The Fisher's Exact Test showed that the *self-management support subscale* had a significant relationship with gastritis recurrence (p = 0.048), while the other subscales (*delivery system design*, *decision support*, *clinical information system*, *organization of care*, and *community resources*) showed an insignificant association (p > 0.05), but had a strong association in the high score category. The conclusion of this study shows that the higher the student's self-management ability, the lower the risk of gastritis recurrence.

Keywords: Gastritis; Chronic Care Model; self-management; Recurrence; Young Adult.

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Introduction

Gastritis is a disease of the digestive tract that is suffered by many people and has a big impact on the quality of life of sufferers. Gastritis is an inflammation of the gastric mucosa caused by *Helicobacter pylori* infection. Other causes of gastritis are the use of nonsteroidal anti-inflammatory drugs (OAINS), irregular diet, stress, and an unhealthy lifestyle (Shah et al., 2023; Rugge et al., 2024). Symptoms that can arise from gastritis such as heartburn, nausea, vomiting, anorexia, and gastric bleeding can interfere with daily activities (Nurfauziah et al., 2024).

Data from the World Health Organization (WHO) in 2023 shows that gastritis is a global health problem with high prevalence, especially in developing countries, including Indonesia, with a percentage of 40.8% (Rugge et al., 2024). Chronic gastritis often appears as a result of recurrent acute gastritis, resulting in continuous irritation of the gastric mucosa and incomplete healing. This leads to a high rate of recurrence (Tania et al., 2023). Gastritis recurrence is not only influenced by biological factors, but also psychological, social, behavioral health factors, and the health service system (Aulia et al., 2023). Therefore, the approach used to understand relapse factors needs to be comprehensive.

One theory that can be used is the Chronic Care Model (CCM) developed by Edward H. Wagner and his colleagues in the United States. CCM emphasizes that the management of chronic diseases requires proactive interaction between patients and a well-organized healthcare team (Wagner et al., 2001). This model has six main elements, namely Self-management support, Delivery system design, Decision support (evidence-based decision-making support), Clinical information systems (clinical information systems for patient monitoring), Organization of health care, and Community resources (utilization of community resources).

In the context of chronic gastritis, CCM is relevant because patients need the ability to manage symptoms, understand relapse triggers (e.g. diet or stress), and take preventive measures through the support of health workers, families, and communities. An integrated service system allows patients to get education, continuous monitoring, and access to health services on a regular basis. Thus, CCM can be used as a framework to analyze the factors that influence gastritis recurrence.

This research is important because there are still limited studies that link gastritis recurrence factors with the Chronic Care Model framework**.** The results of the study are expected to provide a scientific basis for the development of CCM-based nursing interventions in reducing the rate of gastritis recurrence and improving the quality of life of patients.

Method

This study is a quantitative study with participants with gastritis in West Semarang. Respondents in this study were selected with inclusion criteria in the form of: young adulthood; have been medically diagnosed with gastritis and have experienced symptoms of gastritis recurrence for more than 3 months. The exclusion criteria in this study are gastritis patients with chronic diseases. In this study, there were 30 respondents who met the criteria.

The measuring tool in this study is in the form of a Gastritis Recurrence questionnaire based on the Chronic Care Model. In this questionnaire, the Chronic Care Model (CCM) elements are divided into Self-management support consisting of 8 questions, delivery system design consisting of 6 questions, decision support consisting of 5 questions, clinical information systems consisting of 4 questions, organization of Health care consisting of 4 questions, and community resources consisting of 5 questions. The entire question uses a likert scale with the choices of strongly disagree, disagree, agree, and strongly agree. This questionnaire has been tested for validity with a result of r> 0.30 and a reliability test with a result of α= 0.79-0.88 so that this questionnaire can be said to be valid and reliable. Data collection in this study was carried out by distributing questionnaires to respondents who had met the criteria. The questionnaire is distributed with gfrom

Results

The results of this study will be displayed based on the subscale of CCM, namely Self-management support, delivery system design, decision support, clinical information systems, organization of Health care, and community resources.

Table 2. Significance of the entire scale in the chronic care model

Subscale CCM	Low Relapse Proportion (%)	Proportion of moderate recurrences (%)	High Relapse Rate (%)	Chi-Square p-value	Fisher's Exact p-value
Self-management	93%	100%	62,5 %	0.058	0.048 *
Delivery System Design	100%	90%	77%	0.310	0.238
Decision Support	100%	88%	77%	0.244	0.238
Clinical Information	100%	89%	73%	0.207	0.115
Organization of Care	100%	90%	73%	0.178	0.115
Community Resources	100%	90%	75%	0.165	0.143

Self-management support was the only subscale with significant results (Fisher p = 0.048) indicating that the higher the self-management support, the lower the risk of recurrence. Other subscales, namely Delivery, Decision, CIS, Organization, Community, showed conformity in the high category, but were not significant (p > 0.05). The results of this study support the Chronic Care Model (CCM) theory that all elements contribute, but self-management is the most powerful factor in preventing gastritis recurrence in students.

Table 3. The relationship of each subscale with the recurrence of chronic gastritis

	No Relapse (0)	Relapse (≥1)	Total
Delivery System Design			
Low	0	7	7
Keep	1	9	10
Tall	3	10	13
Decision Support			
Low	0	9	9
Keep	1	7	8
Tall	3	10	13
Clinical Information System			
Low	0	10	10
Keep	1	8	9
Tall	3	8	11
Total	4	26	30
Organization of Care			
Low	0	9	9
Keep	1	9	10
Tall	3	8	11
Community Resources			
Low	0	8	8
Keep	1	9	10
Tall	3	9	12

The aspect of the first Chronic Care Model is Delivery System Design which is divided into 3 categories (low, medium, and high). Respondents in this study showed that most of them had high scores on the aspect of Delivery System Design (n=13). The second aspect is Decision Support with the division of high, medium, and good categories. Most respondents had high scores (n=13). However, some respondents had low scores in this aspect (n=9). The third aspect in the chronic care model is the clinical information system. Respondents' scores in this aspect were mostly in the high category (n=11). Respondents who have a high clinical information system but also have a prevalence of recurrence, which is 8 respondents. The fourth aspect in the chronic care model is the organization of care. Most of the respondents in this study had a high organization of care, which was 11 respondents. However, when viewed from the recurrence rate, some respondents were in the category of relapse with low and moderate organizational care (n=9). The fifth aspect in the chronic care model is community resources. Most of the respondents in this aspect had community resources in the high category (n=12). However, when viewed from the recurrence rate, there are still many respondents who relapse with good community resources (n=9).

Discussion

The results showed that self-management support was the most influential aspect of CCM on the risk of gastritis recurrence in respondents. Respondents with high self-management scores had a lower proportion of recurrence (62.5%) compared to low and medium groups who almost all experienced relapses. This indicates that the ability of respondents to manage their diet, recognize triggering factors, and develop an action plan when symptoms appear is a significant protective factor against recurrence. Fisher's Exact Test analysis even showed a significant association ($p = 0.048$), confirming the importance of self-management support in the management of long-term gastritis.

These results are in line with previous studies that stated that good self-management skills, such as adherence to eating schedules, avoidance of irritant foods, as well as stress management, significantly lower the frequency of relapse in patients with chronic gastrointestinal diseases (Kim & Oh, 2024). Other studies also confirm that patients with good educational and motivational support are able to reduce gastritis recurrence by up to 40% compared to groups without self-management intervention (Al Rasheed & Al-Rubeaan, 2021). Thus, the results of this study strengthen the CCM theory which emphasizes that strengthening the patient's ability to manage their own disease is at the core of chronic disease treatment.

In the context of the respondents of this study, most of whom are young adults, the application of self-management is a challenge in itself. A disorderly lifestyle, staying up late, and consuming instant food can weaken the effectiveness of self-management. Therefore, campus-based interventions such as nutrition education programs, health counseling, and peer support groups can be effective strategies to strengthen self-management. This approach is not only relevant to the results of the study, but is also consistent with CCM's recommendations in improving the quality of life of patients with chronic diseases through individual and community empowerment (Wagner et al., 2001).

The results showed that Delivery System Design was associated with the tendency of gastritis recurrence in respondents, although it was not statistically significant ($p > 0.05$). Respondents with high delivery system scores had a lower proportion of recurrence (77%) than the moderate (90%) and low (100%) groups. This indicates that a structured health care system, including clarity of control schedules, follow-up from health workers, and good coordination between teams, plays an important role in reducing recurrence, although the effect has not been seen significantly in this limited sample.

These results support previous research that stated that effective service system design can improve continuity of care and lower the risk of chronic disease recurrence. A study showed that patients with a regular follow-up system and team-based healthcare experienced a 30% reduction in gastrointestinal recurrence rates (Singh et al., 2020). This confirms that the treatment of gastritis does not only depend on individual factors such as diet and stress, but also on how healthcare services are structured to support the patient's needs on an ongoing basis.

The results of the study on the Decision Support aspect tended to be related to the risk of gastritis recurrence, although it was not statistically significant ($p > 0.05$). The proportion of recurrence in respondents with high decision support scores (77%) was lower than in the moderate (88%) and low (100%) groups. These findings suggest that good decision-making support, in the form of evidence-based education, direction from health workers, and the provision of clear disease management protocols, can help students manage gastritis more effectively so that the risk of recurrence is reduced.

These results are in line with previous research that emphasizes the role of clinical education in reducing the recurrence rate of chronic diseases. According to research by Johnson et al. (2019), providing evidence-based information to gastrointestinal patients is able to increase adherence to a healthy diet, reduce the consumption of triggering foods, and reduce the frequency of recurrences. The support of healthcare professionals in decision-making also helps patients feel more confident in managing symptoms and making healthy lifestyle choices.

The results of the study on the Clinical Information System (CIS) scale had a relationship with gastritis recurrence although it was not statistically significant ($p > 0.05$). Respondents with high CIS scores had a recurrence rate of 73%, lower than the moderate (89%) and low (100%) groups. These findings indicate that good clinical information systems—such as medical history recording, reminders for controls, and the integration of patient data—play a role in improving the regularity of care and helping students prevent gastritis recurrence.

Previous research confirms that the existence of an integrated clinical information system is able to improve the quality of monitoring of patients with chronic diseases, including gastrointestinal disorders. According to a study by Chen et al. (2020), the use of electronic medical records with a control schedule reminder feature contributed to increased patient adherence, which ultimately lowered the recurrence rate of chronic diseases by 25%. This suggests that CIS can be an important instrument in supporting the management of recurrent gastritis.

The results of this study also show that Community Resources has a protective trend against gastritis recurrence although it is not statistically significant ($p > 0.05$). Respondents with high community resources scores had a lower (75%) proportion of recurrence than the moderate (90%) and low (100%) groups. These findings indicate that community resource support—such as family, peers, campus organizations, and access to health information resources—can help college students manage gastritis more effectively and prevent recurrence.

This study is in line with a study by Coleman et al. (2020) that found that community support plays an important role in strengthening self-management skills in patients with chronic diseases. A supportive social environment has been shown to increase adherence to treatment, reduce stress, and encourage healthy living behaviors. In the context of gastritis, the existence of a health-conscious community can help individuals avoid triggering habits such as the consumption of irritant foods, irregular eating schedules, and high academic stress. Social and community support also serves as a sustained positive behavior reinforcer in controlling chronic disease (Glasgow et al., 2021).

In the context of young adulthood, community resources can be in the form of health promotion activities on campus, peer support groups, and easily accessible health counseling services. Healthy campus programs and community-based educational activities

can strengthen social networks that encourage students to manage their digestive health more independently. This principle is aligned with the CCM concept which emphasizes collaboration between health care systems and communities to build long-term support for patients with chronic diseases such as gastritis (Wagner et al., 2001).

Conclusion

Self-management support is a subscale with significant results (p = 0.048) which shows that the higher the self-management support, the lower the risk of recurrence. Other subscales, namely Delivery, Decision, CIS, Organization, Community, showed conformity in the high category, but were not significant (p > 0.05). The results of this study support the Chronic Care Model (CCM) theory that all elements contribute, but self-management is the most powerful factor in preventing gastritis recurrence in young adult.

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