Study on the Application Effect of "Internet Plus" Continuity of Care Based on the IMB Model in the Management of Home-Dwelling Elderly Patients with Chronic Diseases

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Abstract

Objective To analyze the intervention effect of "Internet+" continuity of care based on the IMB model among home-dwelling elderly patients with chronic diseases. Methods A total of 200 elderly patients with chronic diseases were enrolled as the study sample and were randomly assigned by a numerical randomization method into a control group (n=100) and an observation group (n=100). The control group received routine Internet-based continuity of care, while the observation group received "Internet+" continuity of care based on the IMB model. The data were analyzed statistically. Results The observation group showed higher self-efficacy and higher satisfaction than the control group, with $P<0.05$. Conclusion "Internet+" continuity of care based on the IMB model can improve self-efficacy and satisfaction among home-dwelling elderly patients with chronic diseases.

Full Text

Application Effectiveness of "Internet+" Continuous Care Based on the IMB Model in Managing Elderly Patients with Chronic Diseases at Home

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Abstract

Objective: To analyze the efficacy of "Internet+" continuous care intervention based on the IMB model among elderly patients with chronic diseases at home. **Methods:** A total of 200 elderly patients with chronic diseases were enrolled as the study sample and randomly divided into a control group and an observation group using a digital randomization method, with 100 cases in each group. The control group received conventional internet-based continuous care, while the observation group received "Internet+"continuous care based on the IMB model. Data were analyzed. **Results:** The observation group demonstrated higher self-efficacy and satisfaction (P<0.05). **Conclusion:** "Internet+" continuous care based on the IMB model can enhance self-efficacy and satisfaction among elderly patients with chronic diseases at home.

Keywords

Continuity of care; IMB model; "Internet+" ; Geriatric chronic diseases

Introduction

The intensification of population aging has increasingly highlighted the healthcare needs of the elderly population. According to national statistics, the number of people aged 60 and above has reached 260 million, with 180 million suffering from chronic diseases. The concurrent rise in aging and chronic disease prevalence has made family caregiving needs a critical research priority[1]. The "Internet+"continuous care model based on the IMB model can overcome spatial limitations, address the uneven distribution of healthcare personnel, and utilize information platforms to provide comprehensive nursing services to elderly patients with chronic diseases at home, aiming to improve their self-management capabilities[2]. Therefore, this study aims to investigate the value of "Internet+" continuous care based on the IMB model and analyze the resulting data.

Methods

1.1 General Information

A total of 200 elderly patients with chronic diseases registered in our hospital' s chronic disease database between May 2024 and May 2025 were selected and divided into a control group and an observation group. The control group comprised 54 males and 46 females, aged 68-82 years with a mean age of 75.12$\pm$2.16$years.The observationgroupconsistedof50malesand50females, aged68-82yearswithameanageof75.24\pm$2.34 years. P>0.05, indicating comparability between groups. Inclusion criteria: all participants were permanent residents of the city, had chronic diseases, and agreed to participate in the study. Exclusion criteria: patients with multiple chronic diseases and those with hearing or visual impairments.

1.2 Intervention Methods

The control group received conventional internet-based continuous care services provided by a standard continuous care team. This involved follow-up via telephone consultation, WeChat, and other online methods at 1 week post-discharge, conducted once monthly for a total of 2 follow-up sessions.

The observation group received "Internet+" continuous care based on the IMB model. Building upon the control group' s approach, this intervention involved multidisciplinary healthcare professionals and consisted of the following specific components:

(1) Information intervention: Through our hospital' s health education platform, we assessed elderly patients with chronic diseases at home regarding their disease knowledge, daily dietary planning, medication precautions, rehabilitation exercises, and psychological rehabilitation needs. Based on this online assessment, we developed personalized Traditional Chinese Medicine (TCM) characteristic education prescriptions. Disease-related self-management knowledge was regularly delivered to these patients through illustrated manuals (featuring large fonts and high-contrast design to accommodate elderly reading habits), short videos ($ $3 minutes in duration, pushed through official accounts with family assistance for playback), and monthly online live lectures (with replay availability), aiming to enhance their self-management capabilities.

(2) Motivation intervention: This included three sub-components. First, motivational interviewing conducted by MDT continuous care team members via video calls once monthly, which involved (a) exploring ambivalence by guiding patients to express conflicts between current behaviors and health goals (e.g., "What makes it difficult for you to take medication on time?"), (b) strengthening change intentions through empathetic feedback and open-ended questions to help patients propose their own solutions (e.g., "What methods do you think could help you adhere to your medication?"), and (c) setting stage goals by collaborating with patients to establish short-term, achievable action goals (e.g., "Record your blood pressure daily this week"). Second, social support network building through (a) an online patient community—a WeChat group where MDT continuous care team members guided patients to share experiences, with one successful management case published weekly to provide mutual motivation, and (b) family involvement through monthly family meetings (online/offline) to strengthen family supervision and emotional support. Third, an incentive mechanism implementing a point-based reward system where patients could accumulate points by completing health tasks (e.g., daily check-ins, attending lectures) and redeem them for health-related gifts (e.g., blood pressure monitors, fitness trackers).

(3) Behavioral skills intervention: This comprised three elements. First, self-management skills training covering (a) medication management through video demonstrations of "pillbox organization techniques" and "medication reminder settings" in simulated scenarios, (b) symptom monitoring by training

patients to use smart devices (e.g., electronic blood pressure monitors, glucometers) and upload data via mini-programs, and (c) automatic abnormal value alerts where the system pushed warning messages when identifying out-of-range data. Second, health behavior reinforcement through (a) dietary management with daily meal plans generated based on patients' disease types, supporting photo-based food calorie identification, encouraging family members to photograph patients' meals for regular review and guidance by team members, and (b) exercise plan video training with low-intensity exercise videos suitable for elderly patients with chronic diseases at home (e.g., TCM Baduanjin, breathing exercises). Third, emergency handling capacity building utilizing scenario-based simulation training with animated demonstrations of emergency response procedures for acute symptoms (e.g., dizziness, chest pain).

1.3 Measurement Tools

Patient self-efficacy was analyzed using a 10-point scale, where 1 represented no confidence and 10 represented complete confidence, with higher scores indicating better self-efficacy. Satisfaction levels were recorded for both groups using the following categories: very satisfied ($ $90 points), satisfied (70-89 points), neutral (50-69 points), and dissatisfied (0-49 points).

1.4 Statistical Methods

SPSS 25.0 software was used for data processing. Measurement data were expressed as mean±standard deviation and verified using t-tests, while count data (%) were analyzed using χ^2 tests. P<0.05 was considered statistically significant.

Results

2.1 Self-efficacy Comparison

The observation group showed higher scores, P<0.05, as shown in Table 1 .

**Table 1 Comparison of self-e

Note: Figure translations are in progress. See original paper for figures.