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Analysis of the current situation and intervention strategies for the healthcare of disabled cancer patients based on health education in the home network hospital

Original article

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Abstract: **Objective:** To understand the healthcare needs of disabled oncology patients, explore the impact of home network hospital-based health education on disabled oncology patients' healthcare needs, activity of daily living (ADL) scores, quality of survival, and caregiver burden, and to provide a reference basis for the effective implementation of health education for disabled oncology patients in the home and the improvement of their quality of life.

Methods: From May 2021 to May 2024, 112 patients with ADL Scale scores $\leq$60 who were hospitalized in 7 tertiary-level hospitals in Guangdong Province were selected for the questionnaire survey and implementation of the intervention analysis. The 112 study subjects chosen were randomly divided into 56 in the intervention group and 56 in the control group. The patients in the control group were discharged from the hospital and followed up once a month by telephone, health education, and disease rehabilitation guidance. The intervention group constructed a home network hospital on a routine basis, utilized the micro letter public number and APP applet intervention guidance for 6 consecutive months, and used the general information questionnaire, Barthel index, SF-36 quality of life scale (the Medical Outcomes Study item short-form health survey, SF-36), the caregiver's quality of life scale (the SF-36), and the Caregiver Burden Scale ZBL (Zarit Burden Interview, ZBI), to investigate the number of care needs, quality of life, and the degree of caregiving burden of the 2 groups of patients.

Results: The quality of survival of all patients with disabling tumors was poor. Patients with moderate to severe dependence on ADL were not only impaired in physiological dimensions but also had varying degrees of reduction in psychological dimensions, with the lowest scores in physiological functioning and the highest scores in somatic pain. There was no statistically significant difference in the comparison of the general information and scores of patients in the 2 groups ($P > 0.05$). After 3 months and 6 months of intervention, the difference in scores between the 2 groups was statistically significant ($P < 0.05$), in which the SF-36 score of the intervention group was higher than that of the control group, and the ADL score was lower than that of the control group. There was a statistically significant difference in ADL and ZBI scores between the intervention and pre-intervention ($P < 0.05$) groups. In the control group, after 3 months of intervention, ADL and ZBI scores were statistically different compared with pre-intervention ($P < 0.05$); after 6 months of intervention, there was no statistical difference ($P > 0.05$).

Conclusions: Health education based on home network hospitals can reduce the healthcare needs of disabled oncology patients and meet their safety and physiological health guidance needs. The quality of life of disabled oncology patients is at the bottom level, the burden of family care is heavy, and the burden of care for the primary caregiver is heavy. At the root of the problem, there is a lack of scientific, effective, and practical interventions, which can be sorted by clarifying the patients' needs for home care and providing targeted nursing skills can improve the quality of life of the patients and reduce somatic discomfort.

Keywords: *daily living • disabled oncology patients • healthcare • home network hospitals • nursing interventions*

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1. Introduction

Currently, China has the largest number of disabled people in the world.[1,2] Most disabled patients have been suffering from chronic diseases for a long time and have physiological and psychological dysfunctions, which limit their ability to carry out daily life activities and prevent them from leading a normal life. The absolute number of population in China is the highest in the world, and the number of disabled patients is also increasing day by day.[3,4] However, the intrinsic causes of diseases should not be ignored, especially in tumor patients. Most of the reasons for disability caused by tumors are that they invade the relevant functional parts of the human body, and in order to prevent further deterioration, surgical resection of the relevant functional parts is necessary to facilitate the goal of complete treatment. For example, surgical resection of osteosarcoma leads to amputation of limbs, surgical treatment of laryngeal cancer leads to loss of voice, and so on.[5–7] Due to the special characteristics of disabled oncology patients, China has not yet made preparations in terms of ideology, policies, systems, services, institutions, and mechanisms. In particular, the construction of various types of infrastructures and socialized service systems for disabled oncology patients' healthcare is still very weak,[8] which makes the long-term care of disabled oncology patients to still mainly rely on the family. Due to the influence of culture, economy, tradition, and other concepts, family care in China belongs to the informal form of care. There is a lack of unified norms for the content, quantity, and quality of care. Carers generally care for patients with incapacitating tumors based on their resources, concepts, and abilities.[9] Most of the caregivers have strong, comprehensive caregiving abilities. However, their "taking care of" patients is limited to the satisfaction of daily life, and they are seriously insufficient to improve the daily life ability of disabled oncology patients and to promote their rehabilitation. Patients with different degrees of disabling tumors have different needs for care service programs. Previous studiesn[10–12] have shown that patients with severe degrees of incapacitated tumors have a greater demand for basic life needs services and healthcare content for healthcare professionals and are more suitable for institutionalized elderly care or healthcare integration units where recreational and nursing services are more concentrated. By contrast, tumor patients with a relatively moderate degree of incapacitation are more likely to use the form of home care that is suitable for carrying out more targeted health education activities or self-management It is suitable for carrying out targeted health education activities or self-management skills training for them, which reduces the waste of care resources. At present, family caregivers lack disease care knowledge and skill experience, which makes it difficult to provide correct care for disabled tumor patients, especially for the mildly and moderately disabled tumor group, who cannot take care of themselves completely due to the limitation of body function. However, compared with the severely disabled tumor group, they still have part of their physiological function left, and they can move around relatively freely. They are in the middle zone between the physiologically sound tumor patients and the completely disabled tumor patients, so the demand for professional nursing knowledge and skills is significant. At present, research on the care needs of home-disabled oncology patients' intervention methods are mostly focused on community health services, tracking home visits by health staff, and tracking telephone follow-up visits by outpatient staff,[13,14] but to varying degrees, there are drawbacks such as more singular methods, lack of patient–doctor interactions, high consumption of human and material resources, and limited dissemination of information, which make it difficult to promote the corresponding health education services. With the popularization of smartphones and the application and development of 5G high-speed networks, Internet technology is being applied to the medical field on a large scale. At home and abroad, there have been many studies on using the Internet to provide health guidance for homebound patients.[15–20] Internet as a network medium has been applied in health education for maternal and child healthcare, chronic diseases, and so on, due to its proactivity and timeliness, and good results have been achieved in the prevention of complications, improvement of patient compliance, improvement of patient quality of life, and promotion of doctor–patient harmony.[21–24] However, the implementation of healthcare through the application of medical public platforms is less common in the home care of disabled tumor patients. Due to the specificity of the disease itself, the treatment prognosis of tumor patients is mostly unsatisfactory, and the psychological pressure of family members and patients is also greater than that of other diseases; in addition, the side effects of tumor radiotherapy and chemotherapy are substantial, which bring great pain to patients physiologically. If the patients were originally incapacitated before treatment or because of the need for treatment leading to incapacitation, it further aggravates the mental and psychological burden of the patients and their families, which may lead to a suicidal tendency of the patients or inability to cooperate with the doctors in the treatment and so on. The quality of life of the patients and the families taking care of them after incapacitation have an incomparably heavy burden of care, so it is necessary to pay attention

to incapacitated patients with tumors to alleviate their psychological burden and their families and to promote them to be more active. Therefore, the main purpose of paying attention to disabled tumor patients is to reduce their psychological burden and of their families and to promote their active treatment for a better life.

2. Methods

2.1. Subject of the study

From May 2021 to May 2024, 112 disabled tumor patients with activities of daily living (ADL) scores ≤60 who were hospitalized in 7 tertiary hospitals in Guangdong Province were selected.

Inclusion criteria: (1) Pathological diagnosis of disabled tumor patients with TNM stage TI or TII; the expected survival rate of 1 year and above; (2) patient's age is 35–65 years old; (3) Moderate or severe dependence (≤60 points) on ADL score (Barthel Index); (4) Basic communication ability and have signed informed consent.

Exclusion criteria: (1) Consciousness disorder, unstable condition, or tumor stage non-T1 or TII; (2) Accompanied by severe comorbidity of other organs. (3) Patients were transferred out of the country or died during the study. (4) Patients or family members withdrew from the study on their own.

2.2. Methodology

During the hospitalization, the nurses in the responsibility group were jointly responsible for the patient's overall care and established a good nurse–patient relationship. The patients in the control group were discharged with routine discharge instructions, teaching them and their families to learn to self-monitor vital signs, medication instructions, and contact information. Monthly telephone calls are made to ask, supervise, and guide patients/carers to follow the doctor's medication prescription and understand the diet and guidance. Reminders are given to patients to make appointments to come to the hospital for follow-up appointments on time. The intervention group implemented the following measures on this basis: (1) Explain to patients and their families, apply for the WeChat public number platform, develop WeChat applets and register them, and teach patients and their families of how to use the applets; (2) Based on the results of the care needs, draw up a classification of the care needs of patients with disabling tumors, and collect and produce health education-related materials. The content forms include video, pictures, text, and so on. All the materials are from professional journals and books and are screened by notable experts; (3) Build the WeChat public platform and import the text, pictures, and videos screened by experts into the WeChat public platform's health education function board so as to push them out regularly. In addition, the researcher set up a keyword search to actively request the required information from the WeChat public platform to meet the needs of the disabled tumor patients themselves. Sending the keyword "chemotherapy," the platform will automatically push a link about chemotherapy precautions for the patients' convenience; (4) Constructing a home-based cyber hospital: After the first discharge of the intervention group patients, a telephone follow-up visit was made to agree on a later online video interview with the patients. After the intervention group patients were discharged from the hospital for the first time, they were followed up by telephone, agreed on the time for online video visits at a later stage, were taught how to operate the online visits and the precautions to be taken, and were scheduled to receive online face-to-face visits once a month, lasting for 6 months. The content of the video follow-up visit mainly includes vital signs measurement, health education, disease rehabilitation guidance, and so on. The patients are asked about medication adherence and the side effects of medication. They are informed about their diet and living habits to guide them in establishing good habits. The long-term bedridden disabled elderly were given functional limb rehabilitation exercises and rehabilitation exercise training programs, and their families were instructed to prevent complications such as pressure ulcers and blood clots; they listened to the patients and their caregivers and carried out narrative communication and psychological support to alleviate and channel their bad moods. Each video link lasts about 35 min, including 5 min for preparation and debugging of equipment.

2.3. Patient general information

We designed the general information questionnaire for patients according to the research purpose, including demographic information (age, gender, ethnicity, education level, marriage, etc.), economic status, tumor stage, health status, and residence. After the small-sample pretest, the Cronbach's alpha value of the questionnaire was 0.86, and the content validity was 0.88, indicating that the questionnaire had good reliability and validity.

2.4. ADL assessment

The Barthel Index is used for assessing ADL and is currently the most widely used ADL assessment scale in the country, first published by Mshoney and Banhel in

1965. It consists of 10 items: dressing, grooming (face washing, hand washing, tooth brushing, hair combing), bathing, toileting, controlling urinary and defecation conditions, bed and chair transfers, 45-m activities on level ground, and stair climbing. Based on the score, it can be categorized as mild, moderate, or severe dependence, and a full score of 100 indicates no dependence. It is comprehensive, easy to score, highly reliable, and has good validity and reliability, with a Cronbach's alpha coefficient of 0.89.

2.5. Quality of life

The USAMRB study uses the SF-36 to assess patients' quality of life, which is mainly related to health, with 8 dimensions. Four of the dimensions assess physical status, including physical functioning (PF), physiological functioning (RP), somatic pain (body pain [BP]), and general health (GH) status. The other 4 dimensions assess psychological status, including vitality (VT), social functioning (SF), emotional functioning (RE), and mental health (MH). Higher scores indicate a better quality of life. The assessment is comprehensive, widely used in several countries and regions, and can be used to assess the impact of disease and the benefits of treatment; it is also a good predictor of mortality, with a Cronbach's alpha coefficient of 0.812.[25,26]

2.6. Caregiver burden

The Caregiver Burden Inventory (Zarit Burden Interview [ZBI]) was proposed by Zarit in 1980 as a quick and effective alternative to screening for caregiver burden in older adults. The ZBI scale consists of 22 items, each scored on a 0–4 point scale pattern, with a minimum of no score, indicating no burden on the caregiver, and a maximum of 88 points, indicating a severe burden on the caregiver. The scale assesses the perceived impact on caregivers' health, personal and social life, economic status, emotional well-being, and interpersonal relationships. It has been cited in translations in several countries, with Cronbach's alpha showing perfect internal consistency ($\alpha = 0.81$).

3. Results

3.1. General on patients with disabling tumors

A total of 112 patients were included in the study according to the criteria for inclusion, and a face-to-face questionnaire was used to fill out the questionnaire. A total of 112 valid scales were recovered from the baseline survey, with a recovery rate of 100%. Among them, 67 cases (59.80%) were male, 45 cases (40.18%) were female, and the average age was 50.38 ± 7.244 years old; 62.50% of the patients lived with their spouses, and 3.57% lived alone. Among the 112 study subjects, 41.07% of the patients had a tumor stage of TI, and 58.93% of the patients had a tumor stage of TII. Among the patients with disabling tumors, 2 kinds of complications accounted for 8.7%, and 2 kinds of complications accounted for 8.9%. Complications in 8.93% and 1 complication in 22.32% of the patients with incapacitating tumors were present. There were no complications in the majority, accounting for 68.75%; nausea and vomiting patients accounted for 8.04%; only nausea patients accounted for 41.96%, and neither accounted for 50.50% (Table 1).

Project grouping	Number of examples	Percentage (%)
Sex		
Female	45	40.18
Male	67	59.80
Age (years)		
40–50	18	16.07
50–60	35	31.30
60–70	59	52.68
Educational attainment		
Primary and below	52	46.43
Junior high school	27	24.11
High school	22	19.64
College and above	11	9.82
Residency		
Residence with spouse	70	62.50
Residence with children	38	33.93
Live alone	4	3.57
Tumor staging		
TI period	46	41.07
Phase TII	66	58.93
Treatment		
Radiation and chemotherapy	72	61.29
Immunotherapy	14	12.50
Targeted therapies	26	23.21
Economic status (annual income)		
<20,000	26	23.21
20,000–50,000	67	59.82
>50,000	19	16.96
Types of complications		
Hasn't	77	68.75
I species	25	22.32
Species II	10	8.93
Venous thrombosis		
Low risk	87	77.68
Critical	18	16.07
High risk	7	6.25
Nausea and vomiting		
Neither	56	50.50
Only disgusting	47	41.96
Nausea and vomiting	9	8.04

Table 1. General information on patients with incapacitating tumors cases (%).

Sports event	Intervention group (n = 56)	Control group (n = 56)	*t*/*z* value	*P*
ADL M (P25, P75)	55 (40, 60)	55 (40, 60)	−0.811	0.501
ZBI (x ± s)	38.77 ± 2.842	39.27 ± 2.377	−1.019	0.298

Note: ADLs, activities of daily living; ZBI, Zarit Burden Interview.

Table 2. . Comparison of ADLs, caregiver caregiving burden in the 2 groups before intervention.

Dimension (math.)	Intervention group (n = 56)	Control group (n = 56)	*t*/*z* value	*P*
PF	37.598 ± 11.898	36.945 ± 12.163	0.287	0.775
Physiological functions (RP)	4.450 ± 7.329	5.140 ± 8.122	−0.480	0.632
BP	79.998 ± 21.843	86.975 ± 19.967	−1.764	0.081
GH status	36.875 ± 5.012	37.163 ± 4.883	−0.308	0.759
VT	46.780 ± 8.897	44.989 ± 7.942	1.144	0.255
SF	36.123 ± 8.014	38.024 ± 9.814	−1.123	0.264
Emotional function (RE)	52.91 ± 24.84	43.01 ± 23.083	−0.924	0.359
MH	58.870 ± 8.437	57.479 ± 8.034	0.909	0.365
Health changes	16.13 ± 15.205	18.55 ± 17.309	0.521	0.468

Note: BP, body pain, GH, general health, MH, mental health, PF, physical functioning, SF, social functioning, VT, vitality.

Table 3. Comparison of SF-36 scores on each dimension between the 2 groups of patients before intervention (x ± s).

3.2. ADLs, caregiver caregiving burden balance between the 2 groups before the intervention

A comparison of ADL and caregiver burden of care scores between the 2 groups of patients before the intervention, $P > 0.05$, indicates that there is no statistically significant difference between the 2 groups, which is comparable. Details are shown in Table 2.

3.3. Comparison of balanced scores of quality of life dimensions between the 2 groups of patients before intervention

The pre-intervention scores of the quality of life dimensions were compared between the 2 groups of patients, with $P > 0.05$, indicating that between the 2 groups, there was no statistical difference, and it was comparable. Details are shown in Table 3.

3.4. ADL and caregiver burden of care scores before and after the intervention in the 2 groups of patients

3.4.1. Comparison between groups

After 3-month and 6-month interventions in the intervention and control groups, there were statistical differences in the ADL and ZBI scores ($P < 0.05$). After 3 months and 6 months of intervention, patients in the intervention group had higher ADL scores and lower ZBI scores than the control group.

3.4.2. Within-group comparison

The ADL scores and ZBI scores of patients in both groups were better than those before the intervention after the implementation of 3-month and 6-month nursing interventions, and the difference was statistically significant ($P < 0.05$). Comparing the results after the 3-month and 6-month interventions on the intervention group, the latter's score of the burden of care of the primary caregiver was lower than that of the former, and the difference was statistically significant ($P < 0.05$). Comparison of the control group after conducting 3-month and 6-month post-intervention outcomes showed statistically significant ($P < 0.05$) differences in ADL scores only from the 3-month post-intervention period (Table 4).

3.5. Comparison of SF-36 dimension scores between the 2 groups of patients after intervention

After 3 months of intervention, the scores of all dimensions in the intervention group were higher than those in the control group, in which there was a statistically significant difference between PF, RP, VT, SF, RE compared with the control group ($P < 0.05$). There was no

Sports event	Intervention group		Control subjects	
	3 months of intervention (n = 30)	6 months of intervention (n = 25)	3 months of intervention (n = 30)	6 months of intervention (n = 24)
ADL M (P25, P75)	70 (55, 75)[1,2]	75 (62, 80)[1,2]	60 (50, 70)[1]	60 (53, 75)[2,3]
Burden of care (x ± s)	29.86 ± 3,576[1,2]	24.76 ± 3.446[1,2,3]	34.98 ± 3.977[2]	33.16 ± 4.882[2]

Note: ADL, activities of daily living; [1]Indicates $P < 0.05$ for each of the same time points in the intervention and control groups; [2]Indicates $P < 0.05$ for 3 months and 6 months of intervention compared with pre-intervention; [3]Indicates $P < 0.05$ for comparison of 3 months of intervention with 6 months of intervention.

Table 4. ADL caregiving burden score after 3 months and 6 months of intervention for both groups of patients.

Sports event	Intervention group		Control subjects	
	3 months of intervention (n = 30)	6 months of intervention (n = 25)	3 months of intervention (n = 30)	6 months of intervention (n = 24)
Bodily function	41.880 ± 07.982[1]	42.690 ± 08.862[1,2,3]	38.160 ± 07.943	42.550 ± 09.014
Physiological function	44.040 ± 18.954[1,2]	49.980 ± 18.715[1,2]	31.650 ± 17.962[2]	36.013 ± 19.43[2]
Pain in the body	86.598 ± 12.655[2]	91.743 ± 16.346[2]	83.862 ± 12.547[2]	87.258 ± 10.044[2]
GH status	39.340 ± 05.040[2]	41.480 ± 05.854[1,2,3]	37.050 ± 07.712	37.870 ± 08.132
Energies	52.120 ± 07.013[1,2]	57.120 ± 05.140[1,2,3]	47.010 ± 08.658	48.440 ± 07.124[2]
Social function	44.989 ± 10.253[1,2]	45.178 ± 10.446[1,2]	36.768 ± 09.345	35.610 ± 08.732
Emotional function	57.398 ± 18.704[1]	69.010 ± 17.984[1,2,3]	46.985 ± 26.695[2]	52.943 ± 20.142[2,3]
MH	60.006 ± 07.132	66.981 ± 07.941[1,2,3]	56.130 ± 08.903	61.584 ± 10.432
Health changes	28.010 ± 16.989[1,2]	33.021 ± 15.010[1,2,3]	19.131 ± 23.869	28.880 ± 14.886[2,3]

Note: GH, general health; MH, mental health; [1]Indicates $P < 0.05$ for each of the same time points in the intervention and control groups; [2]Indicates $P < 0.05$ for 3 months and 6 months of intervention compared with pre-intervention; [3]Indicates $P < 0.05$ for comparison of 3 months of intervention with 6 months of intervention.

Table 5. Comparison of scores of quality of life dimensions after 3 months and 6 months of intervention between the 2 groups (x ± s).

statistically significant difference between BP, GH, and MH compared with the control group ($P > 0.05$). After 6 months of intervention, the dimension scores in the intervention group were significantly higher than those in the control group. There was a statistically significant difference between PF, RP, BP, GH, VT, SF, RE, and MH compared with the control group ($P < 0.05$). There was no statistically significant difference between BP and the control group ($P > 0.05$) (Table 5).

4. Discussion

4.1. Effect of nursing interventions on ADLs in disabled oncology patients

As can be seen from Table 2, the subjects included in this study were patients with ADL ≤ 60 points of moderate and severe dependence. There was no difference in ADL between the 2 groups before the implementation of the study, and after the 3-month and 6-month interventions, ADL scores of the 2 groups improved. The intervention group was higher than the control group, which is statistically significant. A literature report states that continuity of care[27–29] interventions can decrease patient mortality and improve ADL. Hager et al.[30,31] also noted the nursing value of video follow-up and face-to-face communication. The ADL scores of the intervention group in this study were significantly improved, indicating that the interventions were practical and easy to accept by the patients, and the video follow-up could comprehensively assess the status of the patients, which was significant for home nursing guidance.

4.2. Nursing interventions on alleviating the stress load of primary caregivers

Table 2 shows no statistical difference between the caregiver care burden of the 2 groups before the intervention. The scores of the 2 groups decreased after 3 months and 6 months of the intervention. There was a statistical difference between the within-group comparison of the care burden of the control and intervention groups ($P < 0.05$), which indicates that the caregiver care burden of the 2 groups decreased after the intervention. The reason for this is that the patients lacked professional intervention guidance. The primary

caregivers had a heavier burden of care. The online visit mode on the Internet could promote the medication adherence of the patients and their families and dynamically detect the general condition of the patients. The remote video could comfort the patients and their families, increase their confidence in overcoming the disease, and improve their self-presence. The intervention group's scores decreased more than those of the control group after 3 months and 6 months of intervention. There was a statistical difference in the comparison between the groups ($P < 0.05$), indicating that the nursing intervention model led by hospital nursing staff through online health education and offline video follow-up can effectively alleviate the primary caregiver's care burden. Yang found that the combined online and offline care model could improve the quality of care and reduce the caregiving burden of caregiving. Cao et al.[32–34] state that the Internet telecare pathway can provide all-around nursing guidance for family members, understand the patient's home condition in a wide range, and have an irreplaceable role in the continuity of nursing care measures. At the same time, it can also give a certain degree of psychological guidance to alleviate the pressure of talking with the caregiver through video follow-up visits.

4.3. Nursing interventions on patients' quality of life

Table 5 of this study shows that the quality of life scores of the intervention group gradually increased at 3 months and 6 months of intervention, where the difference between physiological functioning, somatic pain, GH status, energy, SF, and health changes after 3 months of intervention and pre-intervention was statistically significant ($P < 0.05$). Scores of physiological functioning, GH status, energy, emotional functioning, and health changes in the control group were higher than before the intervention, and the scores of other dimensions decreased. After 6 months of intervention, there were statistically significant differences between the intervention group and pre-intervention in all dimensions except somatic pain ($P < 0.05$), indicating that the nursing intervention model of this study can effectively improve the physiological and psychological health of the disabled elderly with cardiovascular disease and improve the overall quality of life. Peng et al.[35,36] concluded that home care combined with Internet hospitals can help improve patients' quality of life with incapacitation and enhance the feasibility and longevity of continuity of care. It has also been reported in the literature[37–39] that video visits and evangelism can reduce the psychological trauma of patients and their families and improve treatment beliefs. Regularly pushing disease-related knowledge and popularizing science education can promote patients' treatment adherence and improve caregivers' knowledge reserve, reducing the burden of caregiving and promoting patients' recovery.

5. Conclusions

In summary, this study provides professional guidance measures for the home care of disabled oncology patients by constructing a family network hospital and implementing online and offline interventions with the help of an Internet platform, which solves the knowledge needs of patients and their families through WeChat applets and online platforms to alleviate their ideological burdens and psychological pressures. Understanding the implementation effect of the interventions paves the way for further research. Due to the limitation of research time, the intervention for home-disabled oncology patients in this study lasted only 6 months, which resulted in some of these indicators having a trend of improvement, but not obvious. Future studies may appropriately extend the intervention time to observe the long-term effect of health education based on home network hospitals on the relevant indicators of home-disabled tumor patients. During the intervention process, some of the elderly patients and the home-disabled tumor patients with low literacy levels entirely relied on their family members to obtain the information. They could not accompany their family members at any time due to their work, which resulted in the difference in the intervention time and the effect of the expectation. Adjusting the intervention program according to the actual situation is suggested to maximize the improvement of some of these indicators. It is recommended that the intervention program be adjusted according to the actual situation to meet the health guidance needs of the home-disabled maximally.

Ethical approval

Ethical issues are not involved in this paper.

Conflicts of interest

All contributing authors declare no conflicts of interest.

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