

ABSTRACT

This paper introduced the characteristics and way of creation of Mind Map. It generalized the current application of Mind Map in health care education in China and summed up three limitations of Mind Map in the evaluation system of creation level, content, and educational objects. It is expected to provide reference for our health care colleagues.

INTRODUCTION

Health education can improve people's health literacy, promoting them to take the initiative to adopt healthy habits and lifestyle, improving the quality of life, and reducing the incidence of diseases. It also helps to save medical and preventive health care costs and improve the utilization of health service resources Qing-Fang, K. et.al., (2012). However, after receiving regular health education, some patients can only remember 20%~60% of the health information, and the accuracy rate is only 50% Jager, A. et.al., (2012). At present, some patients and their families in China have a low level of health literacy; some citizens have certain difficulties in reading and understanding health information; some patients have a low level of health beliefs. Health behaviors have been poorly implemented and the overall effect of health education is not optimistic Xue-hua, S., et.al., (2016), Wei-yi, Z., et.al., (2014).

LITERATURE

In the 1960s, Tony Buzan created Mind Map. When sorting out information with Mind Map, the left brain, which is responsible for vocabulary, logic and numbers, and the right brain, which is responsible for abstraction, intuition and creativity, can fully operate, presenting key information and hierarchical relationships clearly and concisely, and multiplying the effects of understanding and remembering information Bozan, T., et.al., (2009), Deshatty, D. D., et.al., (2013). Because of its significant advantages in sorting out information, Mind Map has been gradually applied to education, medical treatment, construction and other areas with remarkable effects Li, L., et.al., (2016), Jing, L., et.al., (2014), (Shufeng, 2012). This paper summarizes the design, creation and current application of Mind Map in nursing health education and is expected to provide reference for nursing colleagues.

In general, nursing staff with bachelor degree or above who have higher seniority or have higher professional titles are selected by various departments of the hospital. Based on the key points of health education in prevention, treatment and nursing of various diseases, Mind Map is developed and put into use after being approved by disease-related experts Jingbo, W., et.al., (2018), Hong, W., et.al., (2016), Yuting, T., et.al., (2016).

Due to individual differences in cognition and understanding, the ability of nurses using Mind Map will also affect the effect of health education on patients. Nurses who implement health education should

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first receive training and have situational simulation. Only after passing the assessment can they participate in the implementation of Mind Map health education Li, T., et.al., (2016), Xiaoying, J., et.al., (2019). Li, L. et.al., (2016). mainly focused on the theoretical background, concepts and application methods of Mind Map while training the nurses involved in Mind Map health education, and provided training guidance for nurses in combination with the content of health education.

Mind Map is easy to produce, and there are mainly two ways including hand drawing and computerized drawing. Hand drawing can be done with paper and drawing pens with different colors, while computerized drawing will employ various production of Mind Map such as Mind Map production templates included in software. Some software can also insert pictures to make the content more vivid and specific, and the pattern more neat and pleasing to the eye. The Mind Map of clinical nursing health education is mainly drawn by computer, and the current Mind Map software mainly includes Mind Manager, XMind, Personalbrain, Easy Mind, Info Map, Free Mind, etc. Xia, Y. et.al., (2017), Jun, L., et.al., (2019).

After making use of Mind Map for health education, Yating, Y., et.al., (2018). printed out the Mind Map on A4 paper and gave it to the patients for their own storage and reference. Hong, W., et.al., (2016), integrated Mind Map into PPT and combined Mind Map and PPT in the health education for patients with both pictures and texts, which achieved extraordinary results. Chunxiang, J., et.al., (2018), made Mind Maps for a disease, one of which was printed and sealed with plastic to extend the time for utilization. The sealed Mind Map is placed in the personal information folder of the child patient after the nurse has used it for teaching the children's family members so that it will be convenient for them to read and for the nurse in charge of the hospital bed to teach the caregiver of the child. The other mind map is used for display in the bulletin board of Publicity and Education in the ward.

Since 2013, mind mapping has been more and more widely used in nursing, involving clinical nursing, nursing education, nursing management and other aspects. Both the citation and download of relevant literature published in China's core journals and the publication trend in recent years indicate that mind mapping is also getting more and more attention.

Table 1: Index Analysis from 1990-2020

Literatuers	References	Citations	Downloads	Ref./Article	Cites/Article	Dload./Article	Dload.-cite Ratio
12	62	280	10486	5.17	23.33	873.83	37.45

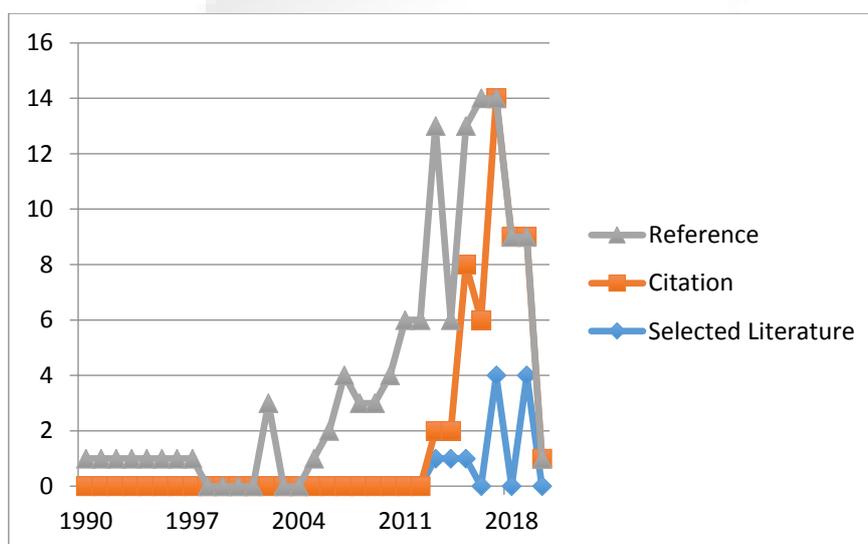


Figure 1: General Trend Analysis

RESEARCH

Health education at admission

Wenying, W., et.al., (2017). used Mind Map to give admission guidance to parents of hospitalized children, and believed that this method was more convenient and practical than traditional health education method, and it was helpful for children and their families to effectively grasp the content of health education. Xiaoling, L., et.al., (2016), applied Mind Map to the admission guidance of infectious disease patients, and the results showed that the health education knowledge in the observation group and the satisfaction score for nursing were higher than those in the control group which only adopted the traditional oral health education, and the scores of anxiety and depression also decreased significantly. Adopting Mind Map for health education allows patients to understand and adapt to the hospital environment in a more specific way, improving the effect of health education on admission, relieving patients' tension, anxiety and other adverse emotional reactions, and promoting their feeling of comfort. Mind Map is especially suitable for the elderly, children and other people who have relatively poor ability to absorb, understand and remember information.

Health education at discharge

Chunhua, X., et.al., (2013), found that it is significantly effective to apply the Mind Map to the health education of family members of pediatric patients at discharge. Procedures of discharge got simplified through Mind Map, which shortened the time taken by the children's family to go through the discharge procedures, improved the work efficiency of the nurses, and enhanced the level of satisfaction among the hospitalized patients. (Lina, 2018), found that the application of Mind Map could effectively prevent postoperative complications of the patients, and provide them with health care guidance such as proper drug use, nutrition and rest out of hospital. Their compliance was significantly higher than that of the control group. According to the rehabilitation points after vitreous filling, Lei, W., et.al., (2016), applied Mind Map to the health education of caregivers of 116 pediatric patients undergoing surgery at the same time based on the major recovery issues after vitreous filling operation. The results showed that Mind Map could effectively improve the cognitive ability and self-care ability of the children, relieving the pressure of the caregivers and reducing their anxiety. Mind Map is a practical and efficient health education tool applicable to all ages and educational levels. The application of Mind Map to health guidance at discharge can help patients further grasp the key points of caretaking out of hospital and adopt medical compliant behaviors that are effective and correct.

Perioperative health education

Lei, W., et.al., (2017), applied Mind Map to the perioperative health education of total knee replacement patients, which significantly improved patients' recognition of health education, and the postoperative recovery of the observation group, such as range of motion of the knee and function of the knee, was better than that of the control group. Xu, C., et.al., (2016), used Mind Map in health education for 265 patients with perioperative breast cancer. It was found that the incidence of postoperative complications in the control group was about three times that in the observation group. The difference was significant. Moreover, through the application of Mind Map in health care education, breast cancer patients were able to have a better understanding and mastery of the key steps of health education during the perioperative period, which will improve the quality of life for breast cancer patients, reduce the probability of postoperative complications, improve patients' health and their feeling of comfort and improve patients' recognition of healthcare quality. Mind Map can simplify and visualize complex information, promoting the understanding and mastery of key steps of health education for patients and their families and effectively facilitating the recovery of patients' wounds and reduce complications.

Health education of diseases

Shenglong, R., et.al., (2017), found through research that applying Mind Map to health education for hospitalized patients with liver cirrhosis can effectively compensate for the weaknesses of conventional health education methods, enable patients to easily remember the content of health education, and improve the effect of publicity and education. According to the investigation on the educational experience of nurses who applied Mind Map for health education, the application of Mind Map for health

education can help nurses to reinforce the mastery of knowledge of liver cirrhosis, improve their ability of health education, and build a harmonious nurse-patient relationship. Xinjuan, W., et.al., (2019), made the Mind Map according to the time sequence and applied it to the health education of lung cancer patients during the entire hospitalized period. The study confirms that when Mind Map is applied among patients who have lung CT guided percutaneous puncture combined with chemotherapy and radiofrequency ablation treatment, it helps reduce the fear and anxiety patients have towards chemotherapy, improve their emotions of pessimism and disappointment, and increase their confidence in the treatment. (Ying-ping, 2015), applied Mind Map to carry out health education for patients with lung cancer, and achieved significant results in aspects such as the mastery of relevant knowledge, overall function of life quality and psychological state. In addition, some researchers have applied Mind Map to standardized health education for tuberculosis patients Jia, L., et.al.,(2016), and health education and care for pediatric hospitalized children with enteritis Xueping, H. Z., et. al., (2019), making outstanding achievements in knowledge acquisition and quality of life of patients.

Limitations of Mind Map

Mind Map is an efficient thinking tool for expression and extracting information. In recent years, it has constantly been applied to various aspects of nursing subjects at home and abroad. However, most nurses use Mind Map to carry out health education after self-study or simple training. There is no mature evaluation and reference system, which results in differentiated production quality of Mind Map, and the effects of health education also varies from person to person.

Mind Map is a concise and highly logical thinking tool. It possesses prominent advantages in presenting key information, but it is not suitable for a large amount of textual content. So the Mind Map tends to have only regular key content for healthcare of diseases and requires nursing personnel to explain to patients specifically according to their practical situation while conducting health education. It also takes time and energy for the nursing personnel to learn.

Considering the individual differences of health education objects in physical condition, health literacy and understanding ability, it is suggested to adopt multiple means to carry out health education based on the real situation. The effect of health education is closely related to the knowledge level, information availability and understanding ability of the educational objects. Based on the "patient-centered" view, when the Mind Map is used in clinical health education, the basic situation of the educational objects should be fully evaluated, and other methods can be used as supplement if necessary.

CONCLUSIONS AND RECOMMENDATIONS

To sum up, with the development and research of Mind Map in the field of nursing research, there have been significant results in various aspects of nursing health education by applying Mind Map due to its clear emphasis, strong logics, and benefits for understanding and memorizing. However, it requires little to access Mind Map, and there is a lack of relatively comprehensive evaluation system in terms of the science of its content and form. Moreover, there are individual differences with regards to the basic situation of some patients. Therefore, while using Mind Map to conduct health education, the actual situation of patients should be taken into consideration and diversified methods for health education should be adopted so as to fully achieve the goal of promoting and maintaining patients' health.

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