Research Paper · Medical Science

Research trends in iNPH nursing care for dementia prevention in Japan

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ABSTRACT
[Propose]The present study aimed to reveal research trends in nursing approaches to address iNPH dementia by conducting a comparison study of Japanese research studies published in the Japan Medical Abstracts Society. [Methods]We searched for articles containing the terms "iNPH," "prevention," and "nursing treatment." Articles containing these terms were analyzed using Trend Search, a text mining software developed by FUJITSU and widely available on the market. [Results and considerations]Hitting articles number was seven articles, moreover, Original articles number was nothing articles with abstract. Whole of one is them about nursing palliative care, reminding articles are explanation of iNPH on pathophysiology. Mapping yielded two wedges: symptoms of iNPH and treatment of iNPH. Therefore, we conclude further research studies are required in order to improve nursing care approaches to prevent iNPH dementia.

KEYWORDS : iNPH, dementia, prevention, comparison

1. Background

As of 2012, the number of patients with dementia in Japan was roughly 4,620,000 (Labor Ministry study group 2013), with an estimated 4 million patients with mild cognitive impairment (MCI). This issue represents a large care burden for the Japanese people. Causes of dementia are not entirely clear, and no effective treatment or cure is currently available. Unfortunately, healthcare needs of older people with dementia are changing and worsening with age, making it difficult to care for older people with dementia in hospitals in Japan. At the same time, the greater societal awareness of the plight of older patients with dementia has increased efforts to deliver high-quality and efficient care to these patients. As front-line providers of healthcare, nurses are under enormous pressure to deliver effective and humane services.

Dementia symptoms vary widely, and can be broadly categorized as one of the following: Alzheimer-type dementia, cerebrovascular-type dementia, frontotemporal dementia, and Lewy body dementia, in increasing order of severity. Recently, additional attention has also been given to idiopathic normal-pressure hydrocephalus (iNPH[1]) dementia, as this type is impossible to treat surgically. Diagnosis and management of iNPH, a disorder resulting in gait impairment, incontinence, and dementia affecting elderly patients, incorporates an organized approach using principles familiar to neurologists. Thus, it is very important for nurses and other medical care staff to understand iNPH symptoms[2].

2. Purpose

The present study aimed to reveal research trends in nursing approaches to address iNPH dementia by conducting a comparison study of Japanese research studies published in the Japan Medical Abstracts Society (hereafter, Ichushi).

3. Methods

We conducted a literature search of articles in an internet database established by the NPO Japan Medical Abstract Society (Ichushi Service). This is one of the most well-known databases of Japanese studies in the fields of medicine and nursing, comprising roughly 5,000 journals and 6,300,000 articles, using a thesaurus structure. We searched for articles containing the terms "iNPH," "prevention," and "nursing treatment." Articles containing these terms were analyzed using Trend Search, a text mining software developed by FUJITSU and widely available on the market[3]. The analysis conducted by this software provides concept mapping of related terminology, with the strength of the relationship between words indicated by line thickness and the distance between them. Throughout the analysis, for ethical purposes, only anonymous articles were used in the thesaurus search.

Ethical considerations: Only anonymous articles were selected.

4. Results and considerations

Hitting articles number was seven articles, moreover, Original articles number was nothing articles with abstract. Whole of one is them about nursing palliative care, reminding articles are explanation of iNPH on pathophysiology. Mapping yielded two wedges: symptoms of iNPH and treatment of iNPH (Figure 1).

Wedge 1. Symptoms of iNPH
The first wedge, symptoms of iNPH, started with "impending incontinence." This key word was associated with the terms "cognition," "gait disturbance," and "nerve." "Nerve" was associated with "the cause of disease," "impairment," "the prevention of the accident,", "test," "assessment,", "psychology," "severity scoring," and "falls."

Wedge 2. Treatment of iNPH
The second wedge, treatment of iNPH, started with "ventriculoperitoneal shunt," which was associated with the terms "nursing" and "complication." "Nursing" was in turn associated with "care," "surgery," "observation," "local community network," "practice," "palliative," "adverse," and "event terminal." "Complication" was associated with "MRI," "diagnosis," "cerebra atrophy," "images," and "X-CT." The wedge "cerebrospinal" was associated with "spinal tap" and "nucleus pulposus." "Spinal tap" was associated with "shunt," "surgical treatment," and "hydrocephalus," while "nucleus pulposus" was associated with "paralysis," "degeneration," "cerebral cortex," and "progressive."

The text mining software also revealed the two wedges of symptoms of iNPH and treatments of iNPH. Two results mean just pathologic physiology of iNPH. These are not nursing approaches used to address dementia symptoms in iNPH. In particular, care for the symptoms of iNPH dementia has not been clarified. This meanings also just are etiology of iNPH, however it not include approaches of nursing for iNPH in detail. The Japanese Society of NPH has published some guidelines, but these do not include information for nurses on caring for patients with iNPH.

Therefore, we conclude further research studies are required in order to improve nursing care approaches to prevent iNPH dementia.

Figure 1. Mapping of "Ichushi" made of remake by Trend search's results.

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