A Concept Analysis of Nursing Informatics

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INTRODUCTION

- It is important to understand the difference between the concept of Nursing Informatics (NI) and the practice of NI.

- As a practice, NI is a relatively new sub-specialty of nursing, defined as a specialty that integrates nursing science, computer science and information science.[1]

- As a concept, NI is a collaboration between often disparate departments to enhance patient outcomes and improve quality of care, and a way of processing information for dissemination.[2,3]

- NI enhances the collaboration between clinicians, computer scientists, cognitive and developmental psychologists, engineers, medical informaticists, physicians, knowledge engineers and the vendor community.[4]

- The **purpose** of this concept analysis is to provide an understanding of NI as a concept, and to describe the body of knowledge that NI encompasses.

METHODS

- PubMed and CINAHL databases were searched for articles in English, from 2005 to 2016, with the following keywords: nursing, informatics, specialist, and healthcare.

- Twenty-two articles and seven textbooks met the inclusion criteria.

- The Walker and Avant method of analyzing concepts was used in creating the model attributes and conceptual definitions shown in Figure 1 and Table 1.[5]
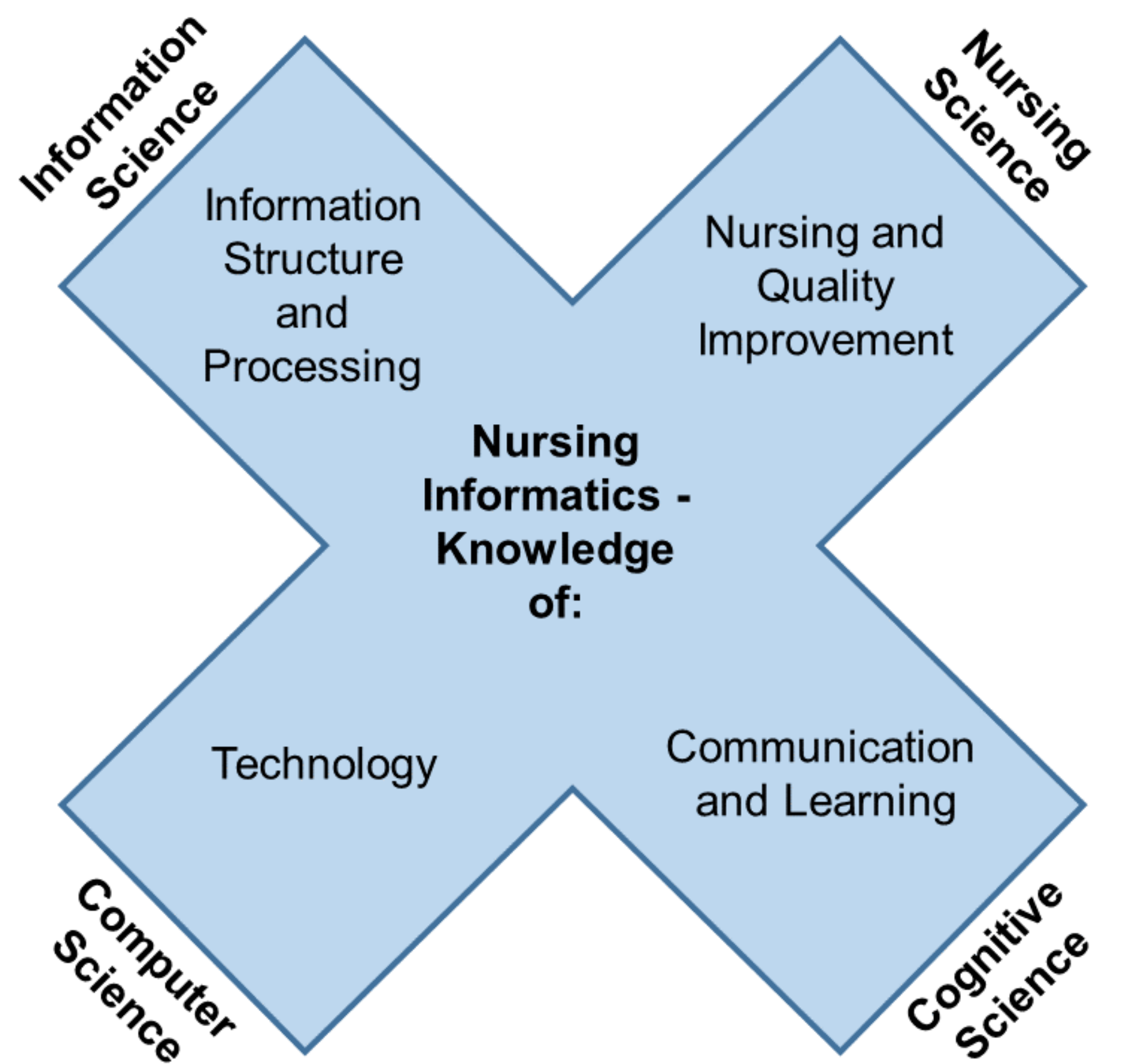
DEFINING ATTRIBUTES

Figure 1. Nursing Informatics Conceptual Model and Defining Attributes

CONCEPTUAL DEFINITIONS

Table 1. Conceptual Definitions and Required Knowledge

Defining Attribute	Knowledge Must Include Aspects of:
Nursing Science	Nursing and Quality Improvement: Nursing workflow, patient advocacy, care delivery, critical thinking, inter-professional collaboration and overall nursing processes.[6]
Information Science	Information Structure and Processing: Legitimate access to and use of data, information, and knowledge.[3]
Computer Science	Technology: Application of computer technology to all fields of nursing – nursing service, nursing education and nursing research.[7]
Cognitive Science	Communication and Learning: Using nursing science and technology to enhance the pathway that data take to become knowledge and improve patient care; and the effect of NI on learning environments, inter-professional collaboration, patient care settings, strategic planning, patient satisfaction and patient outcomes.[8]

CONCLUSIONS

- Nursing Informatics (NI) can and has impacted most, if not all, aspects of patient care within healthcare organizations.

- Investigating the impact of NI on collaboration, patient outcomes, and clinical data utilization should be the next steps in solidifying the concept of NI.

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