Clinical Reasoning and Evidence-Based Practice

Deliberate Decision-Making by Nurses

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Foreword 1

The professional profile and the training profile of the bachelor nurse emphasise the professional role of the nurse in increasingly complex care situations. This complexity requires thinking and collaborative skills in which clinical reasoning plays a key role. By asking the right questions, the nurse is able to make optimal decisions about diagnosis, aetiology, prognosis and therapy. The complexity of modern healthcare demands from nurses to be able to carry out this reasoning both within the realm of their professional autonomy and within interprofessional problem areas. After all, the nurse is in a position to make frequent and purposeful observations, communicate with the patient and their significant others, monitor their health status, and thereby identify potential health problems at an early stage. In addition, through interventions, the nurse can support the patient's functioning and contribute to the treatment of other disciplines.

This book helps students to develop in clinical reasoning. Because the book teaches students to systematically ask themselves questions when engaging in clinical reasoning, it stimulates the exploratory and investigative aspects of clinical reasoning. After all, in complex situations there are no ready-made answers, and in reasoning a great deal of appeal is made to the student's investigative ability. In addition, the first chapter of the book exposes the anatomy of clinical reasoning itself. Knowledge of reasoning in general improves the quality of reasoning, among other things because notorious errors in reasoning can be recognised and avoided. In the training profile of the Bachelor of Nursing, the importance of clinical reasoning is reflected in the CanMEDS role of Healthcare Professional. This book teaches the student to apply this competency in an investigative way. Assisted by student Isabella, the student not only learns clinical reasoning, but also to use the method of *evidence-based practice* (EBP) to involve scientific knowledge in decisions about patient care. The student learns how EBP serves clinical reasoning. The book also demonstrates the breadth of the nursing profession through examples and also through challenging films that illustrate clinical reasoning from different healthcare areas.

The decision to develop the book as much as possible in accordance with the modern educational concept 4C/ID, and to develop the 'book' as an interactive medium, means that it fits in with 'today's student'. The combination of professional nursing content and education is a success factor in learning clinical reasoning.

Wilma Scholte op Reimer is a nurse, epidemiologist, member of the board of governors of Hogeschool Utrecht and professor of Complex Care (Amsterdam UMC-UvA).

Foreword 2

The present book on clinical reasoning links a complex professional task at the heart of the nursing profession to good educational design. The fact that these two components have been brought together in one book is quite unique. The 4C/ID model is attracting a great deal of interest, and there are reasons for this. The evidence-based design model fits in well with the need in education to design and develop education that is based on scientific evidence about how people learn. Attention to the development of (professional) competences, knowledge about the integration of knowledge, skills and attitudes, and attention to transfer—i.e. applying what has been learnt in new situations—are telling examples of this.

In this book, the complex professional task of clinical reasoning, a thought process of the nurse that proceeds differently with each patient and in each situation, is analysed into sub-factors. These are then worked out into four levels of complexity which serve as a framework for the design of subtask exercises and learning tasks which then guide the approach of teachers. The subtask exercises and learning tasks are presented here at levels 1 and 2, whereby the subtask exercises, entirely in accordance with the principles of the 4C/ID model, serve to support the performance of the entire reasoning task. The teacher's environment is thus entirely based on insights from the model, and the design of the tasks for students is also consistent with the model. Teachers are also supported by practical aids, such as good examples of case studies and tests. Whether it concerns learning tasks or tests: all teaching materials can be applied flexibly, which means that they can be fitted into any curriculum. Another unique feature is the multimedia offering of patient cases: these real-life and authentic professional problems make reasoning extra interesting and challenging for the student. In short: a range of teaching aids for state-of-the-art education.

Paul Kirschner is a university professor and professor of Educational Psychology at the Open University. Together with Jeroen van Merriënboer, Paul Kirschner wrote the book *Ten steps to complex learning* (2013) about the 4C/ID model.

Preface

Clinical reasoning is a skill that is close to our hearts. The decisions that result from clinical reasoning largely determine whether the patient receives optimal nursing care. However, clinical reasoning is a complex cognitive core skill of the nursing profession that is not easy for beginning students to learn. Because reasoning happens 'in your head', it is difficult to get a grip on the learning process. It is not visible and not graspable. We can think so much that we can't express it all. Reproducing reasoning and explaining how a reasoning came about is virtually impossible. With this book, we think we have made a good step towards getting a grip on learning clinical reasoning. We have tried to make thinking processes conscious and somewhat visible. The point of clinical reasoning is that through good reasoning the nurse, in good cooperation with the patient, can make the optimal decision for the patient. In this book, decisions are classified into four types, each of which requires its own reasoning process. For each of these decisions, standard questions have been formulated that allow the student to arrive at a responsible clinical decision. By practicing a lot with these standard questions, the student can develop four cognitive schemes with which each clinical decision with accompanying clinical reasoning can be approached in professional practice.

The book consists of three parts. The first part, on clinical reasoning, has been written for first and second year bachelor nursing students. The second part, on EBP, is also suitable for later years. The book offers students a basis in reasoning that they can build on in later years. The third part of the book contains various extras.

The text of the book consists of several layers. The first layer is the main text; it contains what the student (in the opinion of the authors) should at least know. The second layer is the extras (see videos that are linked to various chapters). The third layer is the educational layer. Based on the 4C/ID model, complexity levels have been established, learning tasks formulated, and subtask exercises made available. The instructor environment can be found in Chap. 12.

For the sake of readability, we have chosen to refer to nurses in this book as 'she'. Of course, in these places 'he' can also be used. There are many terms in use to refer to the person receiving care, such as patient and client. In this book, we follow the choice of the International Council of Nurses (ICN). That is why we have chosen the word 'patient'.

Finally, we would like to thank everyone who contributed to this book by thinking, reading, acting in one of the films, or in any other way: Arie Berg, Dorothee Blaisse, Ype van der Brug, Margriet Dijkmans van Gunst, Sophie Dobber, Tom Dobber, Paul Doedens, Anne Eskes, Astrid Jansen, Martijn Klok, Marieke Kroon, Aster de Lange, Corine Latour, Martin Leeda, Bas van Oort, Hajar Rifi, Özlem Solmaz, Richard Steenborg, Nicky van Oostrum, Michelle Wagemaker, Elsbeth Wielinga, Christine Zwart.

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Introduction

Is it safe to let someone with paraplegia sit alone on a chair? How can I best manage someone with depression? How often should I check this patient and why? Why does one patient stop smoking immediately after a heart attack, while another is having difficulty? Nurses encounter a wide range of questions in their work. They answer these questions with knowledge, which they use to make decisions. Clinical reasoning is a continuous process of critical thinking. It is at the heart of the nursing profession because it is essential for patients that nurses make the right decisions. The importance of clinical reasoning is also reflected in the training profile for all bachelor nursing courses, in which clinical reasoning has been formulated as a central core concept for the CanMEDS role of healthcare provider.

This book unravels the thought process that the bachelor nurse performs, and presents this process in four clear-cut decisions that nurses must constantly make during their work: What is going on? How did it come about? What outcome can we expect? What can we do about it? Behind these four main questions are a few subquestions which, when systematically worked through, address all aspects of what is relevant to informed decision-making.

Part I Clinical reasoning is about contemplating, considering and designing care delivery. This is important because it leads to deliberate and better nursing care. Clinical reasoning is best learned through practice. It is not a simple skill. The book takes the reader through the experiences of Isabella, a bachelor nursing student. By following her doubts and ideas, the issues involved in learning clinical reasoning become even more apparent.

Part II Evidence-based practice (EBP) is a way of making better clinical decisions because it involves current scientific knowledge in reasoning. EBP is at the service of clinical reasoning. Proper use of scientific information requires knowledge of how to find that information efficiently, how to weigh up the quality of the information found, and how to assess what the information means for the care of the patient. Here too, student Isabella helps the reader gain insight: for example, into whether you can assess whether the results of a study can be used in your own practice. Choices about how to provide care are ultimately made in consultation with the patient.

Structure and Use of the Book

The book offers the theory of clinical reasoning in two 'layers'. In the first layer, the four key questions are explained in more detail and illustrated with examples, so that it becomes clear how these questions are given content in reasoning. The second layer contains more in-depth knowledge, for example, about thought processes and decision-making, but also about more nursing aspects of reasoning, such as when the nurse can rely on their intuition when making decisions or when more analysis is required. The first layer provides a general overview of the reasoning process. From this first layer the student can click on (digitally) for more content about underlying concepts or browse through the book to the second layer, where clinical reasoning is approached more theoretically. The reader can thus choose and, if desired, switch levels at any time. It is advisable to start with the general line in the first layer and from there to go deeper. The multimedia nature of the book makes this even easier for the reader, as the in-depth content is just a mouse click away from the first layer, and vice versa. The book also contains this second layer. This layer can be found in the book in Part III in depth. The checklists that are part of the in-depth content are also included separately in the Chap. 12 Checklists for quick reference.

Terms preceded by an ► in the text: this term is in the glossary: click on it and you get the description.

The in-depth texts can be recognised by their layout (Sect. 12.1).

Texts in this layout are in the second layer and in Chap. 12.

The book includes several resources as part of the chapters in Part I. In process worksheets, all questions of the reasoning process are clearly listed. During the reasoning process these can serve as a checklist. The cases provided in the form of short films ensure that the reality of healthcare provision is presented in a realistic manner. You can see how patients present their complaints and problems, how a meeting is conducted and how nurses think aloud about 'their' patient. The professional practice is thus realistically portrayed. In addition, there are assignments related to the dilemmas of professional practice.

In addition to the main text (first layer) and the digital environment (second layer) for students, the book also contains material for teachers. This material has been developed from the 4C/ID design model. The 4C/ID model is based on recent cognitive-psychological knowledge about learning. The model offers tools for systematically designing education for a complex professional task such as clinical reasoning. An important starting point is the provision of whole tasks that are optimally aligned with the requirements of professional practice.

The teacher's environment of the book includes a brief introduction to the 4C/ID model and an explanation of how the model is used in the book. Teaching materials in the form of learning tasks and subtask exercises can be inserted into curricula as desired. There are also good examples of detailed case studies and test criteria at two levels of complexity. The material is flexible in its application, based on the fact that the structure of the study programmes differs as much as the wishes of the instructors.

The teacher's environment can be found in Chap. 13.

Contents

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Jos Dobber, PhD is a mental health nurse, an educational scientist and health scientist. He is a senior lecturer in the bachelor's and the master's programme in Nursing at the Amsterdam University of Applied Sciences (The Netherlands), with a special focus on the content and consistency of the curriculum. He is an expert on Motivational Interviewing, and on the learning and didactics of clinical reasoning and evidence-based practice.

José Harmsen, MSc is a general healthcare nurse and nursing scientist. She is lecturer at the Bachelor Education in Nursing (Amsterdam University of Applied Sciences). Her core task as a teacher is clinical reasoning. In addition, she provides workshops in the country on clinical reasoning to graduate nurses.

Margriet van Iersel, PhD is a mental health nurse, educational scientist and programme leader of a Master in Mental Health Nursing. She is senior lecturer at the Bachelor and Master Education in Nursing (Amsterdam University of Applied Sciences). She has a special interest for curriculum design, specifically the 4C/ID model, and she brings in her expertise into the Bachelor and Master nursing curriculum.The authors of this publication are lecturers from the bachelor's programme in Nursing of the Amsterdam University of Applied Sciences. The contents of this publication reflect the knowledge that has been developed in this field within the Amsterdam University of Applied Sciences.

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