EMPIRICAL NURSING

EMPIRICAL NURSING: THE ART OF EVIDENCE-BASED CARE

BY

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INVESTOR IN PEOPLE

I dedicate this book to Alison, Natalie and Rachel, who provided love, support, encouragement and inspiration, but above all, excellent practical advice.

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Foreword

I'm writing this forward on a hot summer's day in England on what has been something of novelty for us – a two-week-long heatwave! At least, there's no need to worry about my vitamin D levels. Isn't it interesting how certain triggers create a certain responses in our brains? Sunshine and vitamin D, carrots and night vision, cranberry juice and urinary tract infections, gluten and allergies, MMR vaccinations and autism. I wonder what your reaction is to some of these? 'That's an old wives' tale' perhaps? Maybe 'oh yes, my grandmother used to say that'? Or, for some, 'Hang on! We know that isn't true?' In some instances, the responses can be instantaneous, as if on autopilot. What is that drives these responses? Using scientific experimentation, Kahneman and Tversky (2000) described this psychological phenomenon of the brain, introducing to us the study of cognitive biases and the idea of slow and fast thinking. They provided ways to show us this in action too. Take the following example: A bat and ball cost £11 in total and the bat costs £1.00 more than the ball. How much does the ball cost? The first time I saw this '£10' also instantaneously popped into my head (the answer is £5). Being mindful of our own cognitive biases and what anchors them is the first step in understanding how they impact the way we assimilate knowledge. And no less so for professions that involve applying knowledge in the care of somebody's health.

Exploring our knowledge of what's 'good' or 'bad' for our health inevitably takes us to advances in research and evidence-based health care. Such advances have allowed us to do away with 'old wives' tales' and healthcare practices once thought to be good for us. There are examples abound: starving for a fever, cocaine for treating depression, putting babies to sleep on their fronts to prevent choking-related death, complete bed rest following surgery or giving oxygen as soon as possible after a heart attack. Practices now known, through scientific research, to cause more harm than good for most are no longer routinely advised or practiced.

However, there are two sides to the coin. The misuse of science can, and does, lead to harm and we need to be ever mindful of this. For many, the words 'Andrew Wakefield' will trigger a very fast response. But it may not be the one you just had. I read in the news recently that there had been an outbreak of measles in the city of Bristol. And not an incidence isolated to one city in the UK. It appears at least some people have been anchored to the original ideas of Wakefield that were rapidly and widely disseminated, and recently amplified via new and all-pervading media avenues, resulting in real harm.

The introduction of evidence-based medicine in the early 1990s shone a light on the way healthcare professionals made decisions. 'That's how we've always done it', 'It makes sense' and mechanistic reasoning dominated. This is not to

say that patient care and well-being weren't at the heart of their decisions; it's just that how these decisions were made wasn't really questioned before. Basing them on good scientific evidence it turned out was low down the list of priorities. Its introduction also led to the need for new skills. The development of evidence-based practice has continued apace, and at its most basic represents the skill of debunking, and the art of understanding and relaying the uncertainties of scientific evidence. All health professionals should have this skill, as Paul Glasziou et al. (2008). 'A twenty-first-century clinician who cannot critically read a study is as unprepared as one who cannot take a blood pressure or examine the cardiovascular system'. This applies to all health professionals, including nurses.

In an informative and accessible way, the author explores the nature and philosophy of science and the practice of evidence-based health care. In the first chapter, he explores and expands some of the themes previously mentioned, particularly the worrying trend of public scepticism in science, driven by 'fake news' and celebrity-based medicine and the pivotal role nurses play in dispelling myths, both old and new, and ensuring their patients are informed by the best available scientific evidence. In Chapter 2, he provides a detailed overview of key epistemological theories; their origins, examples of their applications, discussion of relative their strengths and weakness, and the nature of science, challenging the reader to consider them in the context of their own practice and knowledge acquisition. These chapters are a crucial introduction, before the author moves on to discuss some fundamental aspects of science, including causality, its alternative approaches and the social sciences, highlighting inherent deficiencies within each and the active efforts to address them. Throughout, the ideas explored are summarised and placed in an evidence-based context, ensuring relevance and interest to all practitioners.

Readers will find Chapter 6 particularly useful as this is where the knowledge and skill of evidence-based practice is introduced. In a lucid manner, the author provides excellent explanations of the key concepts that underpin health research that will be of great use to those with limited knowledge, while acting as a great reminder to those more familiar with them. The author should also be praised for discussing some of the criticisms of evidenced-based practice and how to address them. As already stressed, this knowledge is vital in modern health care and a skill that all involved in this area should have. This book will provide you with it.

Bad science and ways to challenge it are the focus of the latter chapters. The rise of pseudoscience as a rational and realistic alternative is particularly prevalent in health science. As a health practitioner, there will undoubtedly be times when you will need to discuss the wishes of a patient who has inadvertently succumbed to some news story of a new, non-scientific approach. In such times, you will need to use your debunking skills, and this chapter acts as great base for developing them. He concludes with a consideration of the art of nursing practice based on science and evidence in the context of knowledge generation and effective practice.

The author leans frequently on the work of Bertrand Russell, as too will I in summary:

> The art of basing convictions on evidence, and of giving them only that degree of certainty which the evidence warrants, would, if it became general, cure most of the ills from which this world is suffering.

This book will serve you well in your development as an artist of evidence-based practice.

David Nunan, June 2018
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References

Glasziou, P., Burls, A., & Gilbert, R. (2008). Evidence based medicine and the medical curriculum. *British Medical Journal*, *337*, a1253.

Kahneman, D., & Tversky, A. (Eds.) (2000). *Choices, values and frames*. New York, NY: Cambridge University Press.

Preface: Using this Book

While the author would like to assume readers will ponder on every word of this book in great detail, the reality for most time-pressed nurses is that they will want to use it as a reference text to explore specific ideas at particular times, as they find necessary. Therefore, this book has been designed for use in different ways: as a textbook, a reference source, or as a concise guide and primer to scientific thinking and its application in nursing. The blend of art and science that makes up nursing is explored with the aim to emphasise the value of creative scientific thinking for practical nursing issues and understanding how to avoid the pitfalls of non-science, pseudoscience, and even bad science along the way. Even those already familiar with scientific epistemology may find some interesting arguments and challenges to their foundational beliefs.

Although the book covers a wide range of philosophical approaches in nursing, it is not designed as a comprehensive philosophy text. Given the great volume of manuscripts devoted to this subject throughout the history of civilisation, it would be presumptuous to hope to do more than explore the fundamental concepts in a text of this nature. References to further readings and sources are given for the reader who wants to know more. Assume that you will encounter new ideas and terminology as you read, and you should expect the need to explore other sources. Readers who want to quickly get to grips with such terms as ontology, dialectic, nominalism, hermeneutics or gnostic can find a quick reference in a glossary of key terms included at the end of the book and an extensive index.

This text together with the references supplied, and excellent sources now available on the Internet, should enable the reader to understand the key concepts and arguments. In addition, a simple "Good Science Detection Guide" is included in the appendix to aid in the identification of the good, the bad, pseudoscience and non-science in healthcare writing and research. Summary ideas for critical discussion are also presented at the end of each chapter that may be helpful for those teaching this material.

Finally, it is also acknowledged that any book exploring this subject cannot be value-free, and therefore, a particular perspective on philosophy and nursing is presented here that aligns with empiricism, and contemporary science, and one that I hope readers will find compelling.

Bernie Garrett
June 2018