Guest Editorial

Clinical Nutrition Education

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> "To learn is to change. Education ... is a process that changes the learner"
>
> George Leonard

WHY IS IMPROVING THE QUALITY OF CLINICAL NUTRITION EDUCATION SO NECESSARY?

Studies suggest an alarmingly high prevalence of malnutrition and that the cost this incurs is increasing at an exponential rate. Optimal nutrition, on the other hand, has been intimately linked to successful disease management outcomes; therefore, in ideal circumstances, a nutritional plan should be drawn up for every patient that a hospital admits. This ideal, however, is far removed from the truth on the ground; physicians heading up healthcare teams often lack the prerequisite training needed to face this challenge and, more troubling, are likely unaware of the necessity of such plans [1-3].

Poor clinical nutrition practices are the net result of an inadequate education in the subject. The challenge thus currently facing clinical nutrition experts is to develop learning tools and raise awareness amongst other healthcare professionals regarding the importance of nutritional therapy, particularly amongst physicians and nutritionists, as well as to promote an interdisciplinary approach towards nutritional care in healthcare professional development [4].

WHEN AND WHOM TO TEACH?

Ideally, all health-related professions should receive basic training in the fundamentals of clinical nutrition, which will conscientize them of the need to optimally nourish their patient at all times and under any circumstances. Whenever the core knowledge needed to provide optimal nutrition therapy is lacking, however, it becomes vitally important to be able to recognize this knowledge gap, and seek professional assistance from an expert. Recognition of clinical nutrition as distinct field of study is a recent phenomena, one which will inevitably lead to a redrawing of some existing professional boundaries [5].

An interdisciplinary specialty should be recognized and must in turn be an authentic specialty. More research is required and efforts need to be directed at determining the various contents and competencies that make up clinical nutrition.

Raising patient awareness and educating them of the risks associated with prolonged fasting and the benefits of clinical nutrition, as well as of their rights to both participate in decision making and to be consulted regarding treatments which could negatively impact their well-being.

HOW TO EDUCATE?

The Adult Learning Theory suggests that knowledge, skills, habits and dispositions should be acquired experientially through authentic contexts and of the importance to communicate with other colleagues and experts within and about these contexts [6].experientially Adult Learning Theory critiques the continuing medical education model's inefficacy, which tends to be more teacher rather than student centred. Additionally, traditional education generally favours the didactic over the interactive, and tends to concentrate knowledge in a select few as opposed to being distributive in nature. Compounding this, there are few physicians specializing in clinical nutrition.

The new educational paradigm is one of continuous professional development, predicated upon Adult Learning principles, one based upon: being self

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directed; experiential; requiring a readiness to learn; is purpose driven, and is directed towards changing existing practices [7,8].

Undoubtedly, the hard skills linked to clinical nutrition's knowledge base and skill-set must be enhanced; nevertheless, no less important are soft skills, those related to the integration of a persons behaviour, their social performance, leadership, and emotional management. These are tied to personality, emotions, acquired values and are based on emotional intelligence. Solely through balancing these technical and non-technical skills will achieving professional effectiveness become a possibility.

It's central that during the clinical nutrition learning process behaviours are modified and the value of nutritional care is demonstrated via early detection, accurate diagnosis, and correctly implementation a course of therapy along with the appropriate monitoring. All of which will undoubtedly impact both the outcome and the cost of care [9]. It is also necessary to instill a sense of self-awareness by demonstrating the adverse consequences of deficient nutritional care, both for the patient and for the healthcare system we labour in, and in demonstrating how these patients can be nutritionally rehabilitated.

In the current view, the key to learning is interaction; therefore, an educator's role becomes that of being a good facilitator towards learning by means of providing good questioning and immediate feedback. Possessing solely the knowledge, protocols, management guidelines and quantitative data surrounding clinical nutrition will not improve the current educational process in terms of nutritional care. It also proves fundamental to imbue care providers with a positive attitude towards nutritional care and bolster highly effective teamwork, as these are the essential hallmarks of providing optimal nutritional care.

WHO WILL EDUCATE?

Changing workplace culture is the hardest task, but the need is urgent. More than 70% of today's educators still employ traditional teaching methodologies, educating through conferences, as has been the status quo of clinical education for centuries.

Our goal as educators should be to transform a student from a novice, to a competent professional, to an expert, and finally into an educator. Decades-worth of studies have concluded that the primary factor affecting student learning is the quality of their teachers. Amongst our most enduring experiences will always be the indelible interpersonal mark left by a teacher upon a student.

WHERE TO EDUCATE?

It has been noted for centuries that clinical practice is learnt at the patient's bedside. It should be expected that through the course of daily check-ups provided by any health professional, the question of optimal nourishment tailored to each patient's specific needs will be at the forefront of any case analysis [10].

Nutritional culture is demonstrable through the eating habits we possess, said culture is acquired via the surroundings in which we develop and engage ourselves in. Therefore nutritional culture is composed of everything you've learnt, the activities you've engaged in, and in the manner they've been carried out.

Tackling the nutritional care deficit requires us to employ three innate and individual leadership skills, namely: intelligence, charisma, and effort. Nevertheless, we rarely employ all three skills in conjunction. These skills permit us to both assist others and to learn form our daily experiences. We, the leaders in clinical nutrition, should serve as role-models for our colleagues in the professional practice, in so doing, we will be able to create and expand our professional sphere of influence. This is the path by which a healthy nutritional culture will be established across the hospitals in which we work.

It becomes paramount to develop a culture of safety in the nutritional care provided by hospital environments, one resting upon: commitment, responsibility, participation, communication, trust, and which implements feedback to foster the team's nutritional care learning [11].

There exists a preeminent need to effectively employ information technology so as to gain access to the greatest number of healthcare professionals.

Online learning is learning which utilizes resources accessed via internet, including books, videos, lectures, and software. The three characteristics of online learning are:

1. Immediate feedback
2. Student ownership of their learning process.
3. The teacher is a facilitator, not the main protagonist.

Teachers educating online should be mindful of the need to keep their students committed. They must also be have the capacity to: select compelling content; employ multimedia resources rich in teachable material; possess a solid teaching philosophy; and be able to utilize the internet to engage in self-directed learning and implement innovative teaching strategies and methodologies for delivering content in a non-traditional environment.

21ST CENTURY SKILL-SETS

Beyond the knowledge which makes up the field of nutrition, there also exist a host of non-cognitive skills that have become vital in the 21st century. These could be characterized as personal skills, those which cannot be easily measured or quantified through traditional testing methods and imply individual outlooks and social skills. What are they? Those of interest to us, the ones promoting innovative thinking, are known as the 4 Cs:

1. Critical Thinking. Those individuals who critically examine accepted beliefs and practices and are able to take on criticism are those whose intellectual capacities increase and for whom every experience offers an opportunity for learning.
2. Communication. Undoubtedly one of the best medicines, it use stretches back into antiquity and serves as the foundation of human relationships. Success requires clear, reciprocal communication. Regrettably, developing communicative skills has not been addressed during a student's academic training. It is vital for professionals to improve the efficacy of their communicative skills.
3. Cooperation. Teamwork is the sole means of improving a patient's quality of life and safety through the range of settings where nutritional care is provided, from homes to hospitals. Access to a multidisciplinary platform allows us to evaluate and continually monitor a patient's nutritional state, formulating care plans and setting therapeutic goals across the short, mid and long term. This will require an interdependent model where constant communication facilitates the team's maximum performance, where they are both collectively and individually committed to achieving the patient's goals, and hold a greater mindfulness of safeguarding the patient's well-being [12].
4. Creativity & Innovation. Creativity is an acquired habit, and the greatest creativity is the net result of pursuing beneficial habits. Innovation, on the other hand, is a skill some possess to replace old ideas with new ones, to modify established principles and to challenge the accepted order.

SOCIO-AFFECTIVE ASPECTS OF LEARNING.

A socio-affective focus to learning is a strategy adopted to provide students with the emotional and psychological skill-sets which will profoundly impact their capacity for achievement both inside and outside the classroom. Falling within the broader heading of emotional intelligence these are, namely: self-regulation, critical self-analysis, responsible decision making, interpersonal skills, and a sense of social justice. Academic programs incorporating these contents in a well designed manner will produce positive results across the academic, social, emotional, and behavioural spheres.

The capacity to remain calm under pressure, and possessing effective interpersonal skills are both critical for fruitful communication and cooperation to occur. Creativity moreover necessitates a willingness to take risks, to overcome obstacles, and to postpone immediate gratification. Critical thinking, likewise, demands one engage in critical analysis and problem solving, both of which may present unforeseen challenges and bring unpredictable results.

A clinical nutrition syllabus should aim at facilitating students to learn "what to know about clinical nutrition", to learn "how to practice clinical nutrition", and to learn "how to become the difference needed in nutritional care" [13-17].

THE EFFECT OF ASSESSMENT

Assessment based on clinical case studies are formative in nature. Through the presentation of problematic cases and formulation of intelligent questions based on treatment interventions, student are guided to formulate appropriate decisions. The findings drawn from such assessments are invaluable to both students and teachers, as both must reflect upon and acknowledge the skills which need to be bolstered and improved.

It is advisable to evaluate both hard and soft skills in each assessment, and to provide timely, sensible, evidence-based feedback to every one of a student's answers. This permits modifying mindsets and behaviours with the aim of improving learning. Thus learning from one's mistakes in clinical nutrition practice is essential.

When examining a case, answering these three primary questions is crucial: why did the issue occur?; how will the issue be solved?; and, how could the issue been avoided?

Take a reflective approach, ask oneself, what could be done differently the next time?

FINAL THOUGHTS

Overhauling the clinical nutrition training given to healthcare professionals engaging nutritional care is a necessity. It must be one promoting the development of critical thinking skills, as well as one which alters

mindsets and behaviours to increase both the quality and safety of the nutritional care provided [18,19].

Educational reform is based upon a transformative process towards engendering a "nutritional knowledge economy" driven by IT, and includes a variety of goals such as encouraging innovation, developing personal character, and the search for the ultimate end of creating a clinical nutrition education geared towards quality of service in nutritional care [20].

These days, students and teachers alike must engage in critical thinking, take risks, and not simply follow orders. We have the tools and skills necessary to change the classroom and transform clinical nutrition education into an exciting and relevant process for students, teachers and especially for the patients and the society to which we have dedicated our lives to protect [21].

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