ARTICLE REFLECTIVE ANALYSIS

TECHNOLOGY OF NURSING AND CARE TO PREMATURE NEWBORN: A REFLECTION THEORY

A TECNOLOGIA DA ENFERMAGEM E O CUIDADO AO NASCIDO PREMATURO: UMA REFLEXÃO TEÓRICA

TECNOLOGÍA DE ENFERMERÍA Y CUIDADOS PARA PREMATUROS RECIÉN NACIDOS: UNA TEORÍA DEL REFLEJO

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ABSTRACT

Objective: to reflect on the use of technology in nursing care to premature birth. Method: using the theoretical philosophical assumptions Alan Barnard, who considers the philosophy of technology in engineering and humanities perspectives. Results: the use of technology in nursing care of the newborn preterm infants is useful both for prevention and for the survival of these babies. To look at the decline in infant mortality, become necessary actions around the use of technology engineering and humanities in the context of prenatal care, childbirth and care to premature birth, where there is explicit use of the technologies that are not mutually exclusive, but unite for a common goal. Conclusion: a philosophical reflection of the use of technology in nursing care contributes to strengthening awareness and use of this open space for discussion of the use, by the nurse, technological strategies available for the development of care to premature birth.

Descriptors: Premature Infant; Technology; Nursing Philosophy; Nursing.

RESUMO

Objetivo: refletir sobre o uso da tecnologia da Enfermagem no cuidado ao nascimento prematuro. Método: reflexão teórica filosófica utilizando os pressupostos de Alan Barnard, que considera a filosofia da tecnologia nas perspectivas de engenharia e humanidades. Resultados: a utilização de tecnologias no cuidado de Enfermagem ao recém-nascido pré-termo é útil tanto para a prevenção quanto para a sobrevida destes bebês. Com olhar na diminuição da mortalidade infantil, tornam-se necessárias ações em torno do uso da tecnologia das engenharias e humanidades no contexto do acompanhamento pré-natal, parto e cuidados ao nascido prematuro, onde há uso explícito das tecnologias que não se excluem, mas se unem para um objetivo comum. Conclusão: a reflexão filosófica do uso das tecnologias no cuidado de Enfermagem contribui para o fortalecimento da consciência do uso destas e abre espaço para discussão da utilização, pelo enfermeiro, das estratégias tecnológicas disponíveis para o desenvolvimento dos cuidados ao nascimento prematuro.

Descritores: Recém-Nascido Prematuro; Tecnologia; Filosofia En Enfermagem; Enfermagem.

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ENGLISH/PORTUGUESE

J Nurs UFPE on line., Recife, 7(7):4782-8, July., 2013

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INTRODUCTION

Born annually worldwide about 20 million premature infants, of which approximately seven million die in the first year of life. The prevalence of prematurity is high with an upward trend in Brazil and in other countries. The survival of premature babies has been increasing due to a set of procedures increasingly specialized. These children require special care, high cost and large possibilities for sequelae.

Vast field, rapidly developing, the technology involved in care during antenatal, delivery and newborn care, is considered synonymous with research and care and has as main goals directed to preterm infants to reduce morbidity and perinatal mortality, beyond the pursuit of survival of the newborn in top condition with the minimum possible sequelae.

The changes and the advent of new technologies also affect the purpose of work in neonatal units, which gives the perspective of rationality and body recovery anatomo-physiologic the newborn baby. Technology can be understood as organized knowledge and applied, since it uses instruments and technological equipment, such as knowledge and behavior involving bonding, host, intuition and sensitivity. Technology in Nursing comprises human knowledge, both scientific and empirical systematically. This technology is evident in human presence, aimed at quality of life and being realized in care.

The use of technology in nursing care to premature newborns is needed, especially those technologies applied in inpatient units Neonatal serving the premature baby, which in turn, require specialized care and require technical-scientific sensitive and intensive. The Neonatal Intensive Care Unit to concentrate manpower and materials qualified to give uninterrupted support to vital functions of premature newborns. Specialized teams of doctors, nurses and other professionals and the possibility of testing equipment and increasingly sophisticated, allows essential and critical care are directed to support for the life of the newborn at risk.

The advancement and modernization of technology in health care affect the prognosis and survival of premature infants. However, it should be emphasized that both the prevention of preterm birth as assistance to these newborns are permeated by the use of these new technologies, and require constant updates and training of health workers on how to deliver the care and adequate human resources. It is considered that the concept of technology should not be treated as a reductionist conception, associated only with the presence of machinery and equipment in hospitals, but also related to the knowledge acquired for the generation and use of products and organization of human relations.

In the health area the technologies are grouped into three categories:

1) Technology hard, represented by equipment, furniture or permanent use.
2) Technology soft-hard, including structured knowledge by disciplines operating in health, such as the medical clinic, dental care, epidemiological, among others.
3) Light Technology, which is expressed as the production process of communication, relationships, links that lead to meeting user needs health actions.

Aiming to make the reflection on the use of technology in nursing care when born prematurely, will be used assumptions from Alan Barnard, professor at the School of Nursing, Queensland University of Technology, Australia, which considers the philosophy of technology from two perspectives: the engineering perspective, which explains the nature of technology in technical terms, concepts, methods, design and objective presence, and the perspective of the humanities, which interprets technology as we do in relation to how the world is experienced by individuals, groups and cultures. The research of Dr. Alan Barnard bring significant contributions to the development of health care with special emphasis on understanding the technology of nursing care and encourages a reconsideration of the relationship between human care, technology and practice of nursing.

- The philosophy of the Nursing Technology

Philosophy of technology is the emerging field of study in nursing. When one reflects on this topic can separate ways and ways of looking at this phenomenon, which involves everything from technological advancement almost always based on products and services, but also in the ways of how people think about technology. The use of technology in nursing is related to how the individual understands the relationship of the world and consequently to its meaning and concept.

Understanding the space that occupies the predominant technology in Nursing and retrieve knowledge from daily experience enables reconcile the empirical knowledge with the scientific and presents itself as an emerging need for nurses with intelligence can build their future.
Traditionally technology manifests itself in the care of nursing resources as current and former, to improve treatment and care through health practice in the form of knowledge and skills associated with the use and application of technological objects that professionals maintain and access progressively. Technology has increasingly manifested in a system where the state, organizations and people are involved to maximize efficiency and rationality, with multilateral organization and effect.¹⁰

There are countless ways of technology available to the health care and the provision of nurses. They use hundreds of machines, equipment, tools, policies and procedures in a single day of work, but many of these activities may go unnoticed because they seem ordinary. However, although apparently the technology seem unnoticed in nursing, nurses have always used tools and techniques to achieve excellence in the work process.⁸

The expansion of knowledge, skills and the development of science and technology in nursing practice also leads to the development of thinking in technology, whether in hospital of high complexity, community service, teaching or research. The rapid growth of information technology, nanotechnology, electronic medical records systems that replace traditional documentation and consumer access increasingly instrumented with information previously available only to medical professionals, is also becoming routine to transact health services and products, promoting a radical impact on health care and education of nurses.¹¹

Nurses, teachers and nursing students need to be skilled in the use of computer technology and develop critical thinking skills to acquire the technological environment, which impacts both in research and in healthcare practice. Technology skills required for the development and reflection of the nurses do not stop there, and require a careful look and ethical, which should permeate the workplace and environment in which the patient is inserted.

In some areas of nursing, nurses are more accustomed and adapted to use and meet the needs of patients and their own needs in the face of new technologies, especially when inserting them in practice. However, there are still gaps to be filled through the use of technology.¹² This raises some questions: technological systems are being monitored and evaluated regularly? Problems related to possible gaps may increase the potential for error in Nursing? The use of technology contributes to the dissatisfaction of nurses?

In this viewpoint, the use of techniques and technologies in care should be integrated into the relational process. Caution should permeate health practices, using hard and soft technologies, engineering technologies and humanities, incorporating the reception, sensitivity, intuition, attentive listening and relationship skills and technical tasks.⁸

Technology advances in the practice of nursing in search of improved patient care and improving the work environment nurse.¹³ Technological systems inefficient and lack of repair of technological equipment makes the work environment of nurses more hostile and increases the load job. Moreover, some problems about the use of technological equipment used to circumvent the problems rather than solve them proactively lead to insecurity of workers and determine changes in the dynamics of team work, increasing and changing expectations.¹²

Nursing is situated as the central axis between the technology to care for the people, for the clinical environment and the community. The nurse knows how to apply engineering technology and humanities simultaneously? At what point does technology engineering technology and humanities are distant and at what point unite to achieve excellence of care?

Philosophical reflection can help you understand and juxtapose the technology of nursing in the care of premature birth, addressing issues and problems, seeking a proper understanding of the relationship between technology and health from a dual perspective: the engineering perspective and the perspective of the humanities.

The philosophical approach has as main objective to identify the nature of the technology as it is manifested through human relationships. The technology of engineering is examined from the standpoint of mechanistic or functional, in terms of consciousness instrumental. The engineering perspective is the dimension levels of technological operation indicated by characteristic roles as the operation of projects, machines and devices.⁸

Already the technology of the humanities, while accepting the perspective of engineering, includes objects or agents use beyond the comprehension of technological events, from a deeper view of the significance of the use of technology and its relation to the world, analyzing aspects non-technical world of life in order to develop a level of awareness that emphasizes the human
experience, the values of the subject being treated and the care agent. In this perspective, technology is more than the material presence or instrumental action, as it embodies the meaning, interpretation, culture, traditions, values and praxis.

The procedure is critical to the position of the nurse as a major contributor in the use of technology to provide health care. The nurse has an important role in the use of engineering and humanities technology in health, in addition to daily care in hospitals and in the community, taking responsibility to interpret and influence the relationship between technology, the praxis of care and human experience.8

The technology of nursing care in attention to premature birth in the engineering perspective and from the perspective of the humanities

The action around the prevention of preterm birth and care to premature newborns target both the preservation of life and health of the child and family, how to achieve the goals established at institutional and national level, as the covenant for life, which has as one of its goals to reduce child mortality.14

In this scenario, the actions aimed at expanding, the organization and classification of assisting maternal and neonatal became part of the agenda of policy priorities in different aspects of management of the Brazilian health system, with the goal of guaranteeing the appropriate structure delivery room and the intermediate units or intensive care practices with greater effectiveness, not only in reducing mortality, but also on outcomes that ensure good quality of life the baby graduates from neonatal intensive care.5

Linked to public policies, programs and interventions can be highlighted three important moments of intervention: assistance during the prenatal, childbirth assistance, and specific care to premature newborns. For any of these moments and periods of care to the mother and baby is necessary to use several technologies to achieve your goals ranging from driving a quality pre-natal, breastfeeding promotion, and prevention of nosocomial infections to the reduction of infant mortality and sequelae future to the lives of these children.

In this perspective, nursing care to premature birth involves all dimensions technological, permeating both the engineering perspective as the humanities, where the harmony between the two dimensions of technology are crucial and require both knowledge and skills to the relational character communication and care during the stages involving the whole process of birth: prenatal, childbirth and postpartum. The structured knowledge in the epidemiology and clinical and technical expertise to take care of the mother at risk for preterm birth and newborn preterm require envision the need to incorporate equipment for their survival.

You cannot separate or give more importance to one or another technological dimension, either engineering or humanities. For issues involving birth preterm labor nursing is complex in its different dimensions. It is human, even if they have to resort to the use of machinery and technical procedures for its implementation.15

Preventing premature birth is possible. Proper care during prenatal, though necessarily involving the engineering perspective must involve the social reality of each individual woman and communication capability is an essential tool in this approach therapy. Discover the social reality, beliefs, fears, limitations of the woman who brings new life provides relevant information to determine the actions that can lead to the childbirth safe for both the mother and her child, and this is the quality assistance that will interfere with birth outcomes.

Resort to the use of technology in the humanities still during prenatal care is as important as using the standards and procedures from the perspective of engineering, namely, achieving the minimum number of queries, track previous diseases such as diabetes, hypertension and other maternal factors that lead to premature birth.

The increase in the proportion of preterm infants, in contrast to the decrease in infant mortality rates in developed and developing countries, is a reality to be explored and leads to numerous questions, such as:

The nurses are using the humanities technology with the engineering technology during prenatal care?

The nurses of the Family Health Strategy can go beyond reporting standards and routines recommended for this service and displays the pregnant women in their necessities more essences, human needs?

What are the challenges for nurses who work in the prevention of preterm birth?

What are the challenges for nurses who work in nursing care to premature newborns?

Difficulties in the prevention of preterm birth are many. Controlling environmental
There are many dangers, as a result of both medical and philosophical perspectives, between technology and ethics. The extent to which awareness, ethics and self-ethics is involved in caring for premature newborns.

It is important that the nurse, in the possession of scientific and philosophical knowledge about the use of technology of Nursing, can both reflect and utilize the technologies of engineering and humanities jointly and mutually complementary, as reflect and interfere with the misuse of these, aiming to quality care, effective and without risk to the mother and her newborn premature.

**FINAL REMARKS**

The use of technology has proven crucial in nursing care to the premature baby and consequently tends to contribute to the reduction of infant mortality. To reach the goal of this article become necessary reflect the use of technology since the establishment of programs and policies, standards and protocols, to obstetric and neonatal care directed at premature to look to describe and evaluate the technologies used for this purpose, but it also involves thought and reflection of how technology is manifested in the relations of prevention and care to premature birth.

Reflecting on these relationships in nursing practice, one needs to understand the importance of balance between technology and the real presence of the nurse to ensure the role of nursing staff in the health care system, which should be both scientific technological and humanized.

There are technologies, goals, equipment, machinery or processes of care that dehumanize care, but the ways in which technology is processed in the thinking and experience of nurses, healthcare team, the patient and their family, showing that both the technology and human care are socially constructed realities.

A reflection on the use of technology in the care of preterm birth contributes to strengthening the awareness of its use for this purpose and open space for discussion of how nurses use them for the development of appropriate health care of the prematurely born and to what extent aware, ethics and skills to use them.

The technology is not a paradigm of care, as an agent, a factor that humanizes contributes and leads to obtaining the success of care for patients and for professionals who use it.
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