ABSTRACT
Objective: to analyze the use of care technologies in Primary Health Care. Method: qualitative, descriptive, field and cross-sectional study. Sample composed of 20 nurses of family health strategies of Caruaru municipality/PE/Brazil. Data collection was carried out by semi-structured interviews in the period from June to July 2013 after obtaining a favorable opinion of the Ethics Committee, CAAE 14593513.0.0000.5203. Data were analyzed according to content analysis. Results: The thematic category <<Interpretation and implementation of care technology>> emerged from the analysis of data and this gave rise to two subcategories: <<Modalities of applied technologies>> and <<Implications in the process of care>>. Conclusion: the domain on the use of care technology is a tool able to facilitate the relationship between user and nurse, resource for diagnostics and interventions, demanding a significant solving. Descriptors: Nursing; Technology; Primary Health Care.

RESUMO
Objetivo: analisar o uso das tecnologias do cuidado na Atenção Primária de Saúde. Método: estudo qualitativo, descritivo, de campo e transversal. Amostra composta por 20 enfermeiras das Estratégias Saúde da Família do município de Caruaru/PE/Brasil. A coleta de dados se deu por entrevistas semiestruturadas nos meses de junho e julho de 2013, após a emissão do parecer favorável do Comitê de Ética em Pesquisa, sob o CAAE nº 14593513.0.0000.5203. Os dados foram analisados de acordo com a análise de conteúdo. Resultados: após análise dos dados, emergiu a categoria temática <<interpretação e aplicação da tecnologia do cuidado>>, a qual deu margem para duas subcategorias <<Modalidades de tecnologias aplicadas>> e <<implicações no processo assistencial>>. Conclusão: o domínio sobre o uso das tecnologias do cuidado é uma ferramenta capaz de facilitar a relação entre usuário e enfermeiro, recurso para diagnósticos e intervenções, demandando uma expressiva resolutividade. Descriptores: Enfermagem; Tecnologia; Atenção Primária de Saúde.

RESUMEN
Objetivo: analizar el uso de las tecnologías del cuidado en la Atención Primaria de Salud. Método: estudio cualitativo, descriptivo, de campo y transversal. La muestra compuesta por 20 enfermeras de las Estrategias de Salud de la Familia de la ciudad de Caruaru/PE/Brasil. La recolección de datos fue por entrevistas semi-estructuradas en los meses de junio y julio de 2013, después de la emisión del parecer favorable del Comité de Ética en Investigación, sobre CAAE nº 14593513.0.0000.5203. Los datos fueron analizados de acuerdo con el análisis de contenido. Resultados: después del análisis de los datos, surgió la categoría temática <<interpretación y aplicación de la tecnología del cuidado>>, la cual dio margen para dos subcategorías <<Modalidades de tecnologías aplicadas>> y <<implicaciones en el proceso asistencial>>. Conclusión: el dominio sobre el uso de las tecnologías del cuidado es una herramienta capaz de facilitar la relación entre usuario y enfermero, recurso para diagnósticos e intervenciones, demandando una expresiva resolubilitud. Descriptores: Enfermería; Tecnología; Atención Primaria de Salud.
INTRODUCTION

Brazil has undergone numerous reorganizations and creation of standards and guidelines, over time, aiming at better functioning of the health system. In this sense, the VIII National Health Conference launched in 1986 set the foundation for creation of the Unified Health System (SUS) and this established health care as a citizen’s right and duty of the State.1

The SUS was standardized and then organized into levels of care to ensure comprehensive care. One of such levels, the Primary Health Care (PHC), has as main feature a set of actions covering the population at individual and collective level such as: health promotion and protection, prevention of diseases, diagnosis, treatment, rehabilitation, health maintenance and harm reduction.2

Such actions aim to provide comprehensive care once they impact health status and promote autonomy of individuals and impact on determinants and factors affecting the community. They are developed through responsible management and practices of democratic and participatory care directed to a population of a defined territory in which there is a sanitary responsibility.3 In this perspective, the Family Health Strategy (FHS) has the undeniable role of structuring axis of PHC. Unlike traditional care model, centered on the disease and the hospital, the FHS prioritizes actions to protect and promote health of individuals and families.3

PHC stands out as a network that must ensure universal access in due time to the user, offering actions for comprehensive care and is responsible for coordinating care in other networks. In order to achieve these actions, professionals trained to develop dynamic activities and perform ongoing assessment of health situation of their area of expertise through monitoring of indicators, a driving axis of health surveillance model, are necessary.4

The decisive function in primary network is not only linked to technical knowledge and instrumental resources that professionals dominate, but also to construction of bond and acceptance with the customer, giving meaning to professional/user relationship where both are part of the health care process.5

From the point of view of PHC assistance, the incorporation of technologies in daily work is a reflection of the inherent capacity of the human being of seeking innovations to transform reality, providing better quality of life. Thus, nursing care is strengthened and qualified through the use of care technologies which are mediators between rationality and professional subjectivity.6

The main purpose of technology is to increase the efficiency of human activity in various spheres, and for this purpose, it produces objects to meet the demand requirements. Technology not only produces machines and physical tools but also organizes and systematizes activities.7

In a broad way, care technologies are categorized into three categories: light, soft-hard and hard. This classification treats technology in comprehensive way by analyzing the care process.8

Light technologies are technologies of relations, access, hosting, service management, and production of a path of communication between community and health professionals. Soft-hard technologies are those that support the structured knowledge of various sciences such as clinical, epidemiological, bioethical and theoretical and nursing processes. The hard technology corresponds to material resources, technological equipment and permanent or consumption furniture used in health work.9

It is important to know how the nurse is facing the changes that arise in everyday practice of caregiving in the light of daily embedded technologies, and how this entails in their attitudes and ways of acting. In view of this the following question arose: Are care activities performed by nurses in PHC guided by the use of care technologies?

It is understandable, thus, that care technologies are able to guide nursing actions, seeking better quality of life, since the nurse is the articulator of the FHS in planning and assisting users. So the present study aims to analyze the use of care technologies by nurses in PHC. However, due to the extensive and significant discussion generated around formed categories, only part of the main study entitled “Use of Care Technologies in Primary Health Care” is presented here.

METHOD

This was a qualitative, descriptive, field-based and cross-sectional study. Qualitative research responds to particular questions that cannot be quantified, that is, it deals with the universe of meanings, motives, aspirations, beliefs, values and attitudes.10

The setting and the subjects were the Family Health Strategies (FHS) located in the urban area in the municipality of Caruaru. The
sample consisted of 20 nurses who worked in the FHS for at least six months and who were willing to participate voluntarily in the research according to the provisions of Resolution 466/12 of the National Health Council/MH which rules the participation of human beings on research.11 The main question of the research was: Are care activities performed by nurses in PHC guided by the use of care technologies?

Data were analyzed according to content analysis proposed by Bardin which is a method used when one wants to go beyond the meanings of simple real reading. It applies to everything that is said in interviews or depositions, as content analysis imposes the need for going beyond appearances.12

Data collection was carried out through semi-structured interviews which were recorded and transcribed for later analysis. It was developed from June to July 2013 after the issue of a opinion by the CEP/ASCES with CAAE 14593513.0.0000.5203. This article will show only one category, which is entitled “Interpretation and implementation of care technology”.

RESULTS AND DISCUSSION

Interpretation and implementation of care technology

Care technology has been a topic of recent discussion in health care in view of the increasingly evident need to humanize the provision of care. Thus, among its various aspects and meanings, care technology proposes a new direction to health services. For this, it is categorized and each definition is related to some fundamental sense in assistance.

Care technologies are classified into three categories: light technologies (bond and hosting), soft-hard technologies (knowledge) and hard technologies (equipment and machinery).8 Depending of what is intended to meet an individual, a particular type of technology might be needed, or even aggregation of all in the same service, thus achieving the desired result. In this sense, the way each professional interprets these technologies interfere with the effectiveness of the assistance which he/she proposes to provide.

Modalities of applied technologies

Based on implemented techniques for production of research data, we tried to focus on the knowledge of technology, care technology and the relationship that the subjects establish with the customer in Primary Health Care (PHC). In the speeches, knowledge relating to light technology emerged but this was not associated with a classification of technology.

I use the listening technology, right? This would be listening and [...] And to give my opinion on the [...] to which the person comes. (N1)

Hosting. It’s just the, the issue of humanization even here in the health center, It is more about humanization right? Hosting after all is involved in the humanization of care, of work itself. (N7)

A fundamental issue of assistance in the PHC network is identified in these speeches: listening. Listening is seen as an expression of interest required for users to interact with the professional and so express their complaints even if they do not concern directly to the diagnosis, treatment or therapeutic project. Listening is, however, necessary to help in the understanding of the disease and its correlation with life, thus avoiding a passive attitude toward treatment. Therefore, listening is a constituent part of the holistic look needed for the work done by nurses in PHC. This look extends the understanding of the subject in its uniqueness, complexity, completeness and socio-cultural integration into the pact agreements in design and care process.13 Furthermore, hosting enables regular access through the most appropriate actions and services offerings, contributing to user satisfaction. The link between professional/client stimulates autonomy and citizenship by promoting their participation in the provision of service.14

The use of soft technologies, especially in hosting, makes the reception, interaction and quality of patient care more effective and decisive. Soft technologies, which refer to technologies of relationship, communication production, hosting, links and stimulation of autonomy, are able to provide the care needed and both the client and the health care provider can benefit from this moment.15

The importance of soft technologies in the context of PHC is evident. However, it is necessary to add technical information to soft care, which can be identified by a hard (structured) and another light component, which are the soft-hard technologies. These concern the unique way of how each professional applies knowledge to produce care, even using instruments (tests, machines, medicines, etc.). Soft-hard technologies are made up of well-structured knowledge operating in the health work such as medical clinic, psychoanalytic, epidemiological, Taylorism.7

[...] The Sisprenatal, so we promptly consult the patient, enrolling her, collecting
Silva THF, Almeida SMO, Silva TO et al.

that Sisprenatal number and putting further examination, then so, who, if the patient goes to the other side of Brazil and open that Sisprenatal number, I know how prenatal was done [...] (N2) [...] Information System [...] We use the SISCOLO [...]. (N4)

[...] We follow the protocols, protocol for each specialty, protocol for prenatal care, protocol for child care, for cytology protocol. (N12)

Research subjects cited at various times that care technology was associated with use of devices to provide better customer service, as sonar (on prenatal), stethoscope, scale, spotlight for performing cytology and computer. These devices are very important, but maintaining a good relationship is essential is necessary for using these devices. Light technology is among these procedures.

Thus, there should be no hierarchy on the value of technologies. Depending on the situation, all are important. One should not forget, tough, that in all light technologies are to be used in all situations. However, when subjects were asked to mention which care technologies they use, they took instruments of the labor process as reference, which are actually classified as hard technologies and recognized as equipment.

The hard technology, related to technological equipment, standards, routines and organizational structures, was more related PHC as exemplified in the speeches below.

These are several, right? But, it is heading here in the health center, the technology I know is the one that we work [...] The tape measure, the nebulization device [...]. (N8) We use scale, anthropometric ruler, it is what we use, the tensiometer. (N10) We use a lot of paper, we write a lot. (N11) It is the computer, the sonar, you know, it is, it is the otoscope, we do not have the digital equipment for pressure, the digital tensiometer (PAUSE), that's all we have: the HGT. (N13)

Addressing technologies aggregated with the needs currently presented by the users in the PHC service requires to go beyond the dimension of devices, whose use assists in maintaining life, whether for users, whether for professionals, but this does not exempt the use of other forms of technology which are also vital to make the process of care in a dynamic way. Nevertheless, some research subjects mentioned that there isn’t any type of technology in the PHC, but just in the hospital environment.

We don’t have [...] I think a computer would help. (N11)

Interpretation and implementation of care technologies...

[...] I do not know, because actually, care technology has not come into my head, I'm thinking in a way, I don’t know if it is. (N14) What we work with? Not here [...] Well, in the hospital we have the system that they are now implementing in hospitals and, as for the electronic medical record, we don’t have in the health unit. (N20)

As discussed earlier, the subjects relate technology to material issues as well. In this perspective, the correlation with the hospital environment is not misplaced. However, when it comes to care technology, there is an evident lack of knowledge on the subject. All health professionals, especially nurses, necessarily develop their work based on these technologies, whether in the relationship established with the client (soft technology), in case of the knowledge necessary to deal with any need presented by the user in the development of therapeutic projects or even in the development of promotion and preventive health strategies (soft-hard technology) and use of resources that contribute to the diagnostic accuracy such as examinations or medications and/or treatments aimed at health reestablishment (hard technologies).

For these reasons, increase understanding on the subject could favor the development of care, resulting in a work that produces expected results consistent with the reality and needs of those involved in the healthcare process.

◆ Implications in the process of care

The questioning about resources and means used in healthcare practice sparked a reflection by subjects regarding their conduct, what usually does not occur due to all many assignments developed in daily life. A diversified understanding of this applicability is notable, with no prior conception of their own conduct. In general, what is observed among most of the subjects is a relationship of the relevance of care technologies as resources for technical procedures and diagnoses.

The importance is the ease [...] If I could ask for a more quick examination, if I can, I ask him to come back more quickly with that examination [...]. (N5)

 [...] Contributes in a lot, in much more effective diagnostic, a quick thing. (N9) I think it is of paramount importance, it must exist. Because if it does not exist, I cannot do it, right? [...] Follow-up and development of the child, the pregnant woman, the hypertensive, diabetic, we use a lot. (N10)

It will help us in some diagnoses [...]. (N16)

The relation of importance explained by subjects in their speeches reveals a limitation of understanding of the essence of care
technologies. Indeed, its use helps in the formulation of diagnoses. However, this is not its only purpose and the contribution it promotes. Perhaps, the misunderstanding of its meaning is what causes the subjects not to broaden their vision so that they can see the key role of assisting technologies, even making daily use of them, thus revealing a distortion of the previously presented definitions, a fact evident in the speech below.

[...] Disease diagnostic tests, right? That is what the technology does; only exams, everything is a machine, but that careful clinical examination, the touch [...] We know that in any case the clinic is sovereign. So, sometimes, you do not even need technology [...] So, the technology is excellent [...] There's a lot that's good for care, I think technology is good to take care in this sense, to see the heart of the baby, to make rapid HIV test, this is perfect technology, but we have to remember that this is the machine, nothing compares with the reasoning or the perception of the human being, right? (N9)

Notably, there is dissociation between technology and humanization. However, in practice, this should not occur, because the two issues are closely linked and collaborating with each other. Technology acts as legitimizing the health professional act and it must adopt a critical-reflective attitude in the pursuit of rationalization, acquisition and incorporation of new technologies. It is necessary to evaluate, from an ethical point of view, the quality of assistance, benefits, limitations and appropriateness to the specific needs of certain technology care by the population.18

On this basis, a reflection on the impact of care technology comes up, one that will determine whether there is or not effectiveness, depersonalization, depersonalization of care service. It is not about technology itself, but about how the professionals use it; the intentionality and attitude toward possible complications and losses arising from its use, the technology becoming an offshoot of scientific rationality.19

Hence, understanding the relationship between care technology and humanization is a crucial aspect in the development of nursing assistance. This way, nurses will be able not only to make conscious use of these resources but also direct their practices based on proper needs in implementing the SUS which requires a humanized professional who sees humanity in each other and intends to accompany the user, especially in moments of vulnerability, using the whole framework of existing resources to create and establish the most appropriate treatment plan.13

On the other hand, there are subjects who do not make a correlation between the importance of care technologies and their contribution in care assistance but actually associate technology with characteristics inherent to the PHC, as identified in the statements below.

Umost importance [...] In primary care we work a lot with health prevention [...] In the Family Health Unit we give prime attention for prevention [...]. (N3)
Do the tracking of people. [...] (N4)
The decline in [...] hospitalization Index [...] By promoting health and prevention. [...]. (N18)

With the establishment of Primary Care National Policy approved in 2006 and currently repealed by GM 24.88/11 decree, PHC features were established. These include a set of individual and collective health actions aiming at the promotion and protection of health, disease prevention, diagnosis, treatment, rehabilitation, harm reduction and health maintenance.7 The purpose of these actions is to develop a comprehensive care able to impact on health status and on the determinants and factors affecting the community.

So, when subjects say, as in the example, that care technologies help in prevention and health promotion they are only demonstrating that have knowledge about the function of the PHC. This is important because professionals need to know the System principles in which they operate. Notwithstanding, these words only reaffirm the ignorance associated to technologies.

What is under question here is the possibility of making primary network to function more effectively, providing assistance for decentralized health, decisive and able to coordinate care. For this, effective therapeutic projects would be possible if professionals could take knowledge of the role and methods of application of these care technologies.

It is necessary to recall the dynamics existing within the PHC, where these populations live, that use complex and varied care technologies that should help in the management of demands and frequent health needs and relevance in their territory, observing risk criteria vulnerability, resilience and the ethical imperative that every demand, health need or suffering must be accepted.20 Thus, any user, affected or not by a pathology, should be seen and assisted as respect for his/her right of access to the system.

Copyright (c)2015, J Nurs UFPE on line.. Recife, 9(12):1174-81, Dec., 2015

ISSN: 1981-8963
In this context, the FHS is a preferential entry door of healthcare. The nurse, who is responsible for a given inscribed area, must seek to direct its assistance to all users, even those who seek unity by spontaneous demand or without deviation of apparent health. In this sense, one response called attention to assistance through care technologies.

It is about providing quality care to users, those who really need it. [...] (N8)

The FHS has facilitated access to health care and contributed to improving the quality of public services. It has also determined and invested in building a new form of know-how in health, in the sense of printing changes and overcoming stigmatizing marks of traditional practices and of the hegemonic medical care model. Thus, the user must be viewed holistically and the care must be guided by principles governing the Primary Care Policy, such as: universality, accessibility and coordination of care, bond and continuity, integrity, accountability, humanization, equity and social participation.

The role of the nurse is an important issue in PHC and, especially, in the FHS. This has figured as a playing field for nursing, an environment where nurses have more autonomy and their work gains more visibility. However, such environment brings along great responsibility: to enforce what is stated by the Federal Constitution of 1988, that health is a right of all citizens. The duty to guarantee access to health care to all, as stated in the Constitution, is responsibility of the state, but in practice, those in the end of the service are the ones who actually ensure that this access to health is being implemented realy.

Based on the above considerations, the nurse must seek not only to solve health problems but also play in the process of health and disease through prevention and promotion, conducting health education. This requires that the professional sees that all users of the inscribed area must be accompanied, applying this ways the health surveillance model of FHS plan. So, hearing a FHS nurse say that the quality of care should be offered to those who really need calls for a reflection about a certain negligence or depersonalization of her/his role in the FHS.

Another key responsibility included in the nurse’s role is to address the demand needs in the own PHC network. Evidence shows that this has capacity to meet 85% of health needs. It is, therefore, important that all treatment possibilities are explored and only after this, the case must be diverted to another level of care.

Thus, still in relation to the contribution of Care technologies in health care, the speech below sets clear that the nurse looks for routing the user, offering him/her access to care technology that, for him, is represented by sophisticated equipment that in his understanding are not part of the dimension of the FHS, thinking that this is the right strategy.

I think so, as I have told you, it helps a lot in the assistance perspective, for, as you see, you promptly route the user, right? There is no much to do, so for me, it is very restricted. (N13)

In this regard, there is a discussion on the issue of routing user without depletion of diagnostic possibilities in the network of PHC, without having listed appropriate information needed for pathological picture. This leads to excessive routings in health service, making evident a lack of solidarity and accountability in the care provided to the user.

In this sense, nurses should seek to develop their work incorporating the use of care technologies so that all possibilities to meet the user health demands are exhaustively explored. This would constitute a decisive care process.

**FINAL REMARKS**

As Primary Health Care Network has been increasingly prioritized and qualified, professionals working in it are expected to be updated in view of the programs and assistance processes constantly incorporated to Primary Care Network. This will direct a apply innovations and conducts in their professional practice that contribute to improving the care process.

The need for mastery of care technology becomes evident when it comes to assistance as a facilitator of nurses’ working process, both in the relationship between user-nurse and as a resource for diagnostics and interventions, demanding a significant resolution. However, we saw in the results of this study the dissociation between care technology and nursing assistance in primary health care. Thus, we realize a need for greater investment of research in this area and that need of managers facilitate and encourage access to such technology in order to promote interest in new ways of doing health.

What is meant by this is to make nurses working in the FHS competent to recognize these technologies as inseparable feature of their daily practice and to adopt it as a model to be disseminated to all professionals and
Silva THF, Almeida SMO, Silva TO et al.

exploring all kinds of resources to develop nursing work.

REFERENCES


Interpretation and implementation of care technologies...

from:
www.teses.usp.br/teses/disponiveis/22/22133/tde-26062007-161921


Submission: 2014/07/14
Accepted: 2015/10/23
Publishing: 2015/12/01

Corresponding Address
Suelen Olivia da Silva
Sítio Juá
Zona Rural
CEP 55470-000 – Panelas (PE), Brazil