

Access to biomedical technology: bioethics perspective of Portuguese nurses

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Abstract

Nowadays, industrialized societies are characterized by the lower birth rate, increase in ageing population and increase in chronic and degenerative diseases. An increase in health care expenditures is seen, observing financing issues. Concepts such as health care sector technological assessment and the implementation of criteria for resource allocation are seen as possibilities for solving this problem. Aiming at identifying and addressing the ethic principals and other factors related to health care policy, that might or not limit the decision to have access to biomedical technology and for this purpose, a survey was done. We concluded that nurses consider that health technology assessment should be carried out, and so should an evaluation of the results arising from their use. The universality of access and equality of opportunities must be guaranteed. Access to technology should be decided by the professional, justifying the paternalism and implicit rationing. They refute the practice of dysthanasia.

Key words: Biomedical technology. Resource Allocation. Equity. Paternalism.

Resumo

Acesso à tecnologia biomédica: perspectiva bioética dos enfermeiros portugueses

Atualmente, as sociedades industrializadas são caracterizadas pela diminuição da taxa de natalidade, envelhecimento populacional e aumento das doenças crônicas e degenerativas. Verifica-se incremento nos gastos do setor saúde, colocando problemas de financiamento. Conceitos como avaliação tecnológica em saúde e implementação de critérios de alocação de recursos são apontados como hipóteses de resolução desse problema. Com os objetivos de identificar e analisar os princípios éticos e os fatores relacionados com a política de saúde, que podem limitar ou não a decisão de acesso à tecnologia biomédica, foi realizado um *survey*. Concluímos que os enfermeiros consideram que deve ser realizada avaliação tecnológica em saúde, bem como uma avaliação dos resultados decorrentes de sua utilização. A universalidade no acesso e a igualdade de oportunidades devem ser garantidas. O acesso à tecnologia deve ser decidido pelos profissionais fundamentando o paternalismo e o racionamento implícito. Refutam a prática da distanásia.

Palavras-chave: Tecnologia biomédica. Alocação de recursos. Equidade. Paternalismo.

Resumen

El acceso a la tecnología biomédica: perspectiva bioética de los enfermeros portugueses

Actualmente las sociedades industrializadas se caracterizan por la disminución de la tasa de natalidad, población envejecida y aumento de enfermedades crónicas y degenerativas. Anualmente se constata un incremento en los costes del área de la salud, atendiendo a problemas de financiación. Se apunta a la evaluación tecnológica en salud y a la implementación de criterios de gestión de recursos como las opciones para resolver este problema. Nuestros objetivos fueron identificar y analizar los principios éticos y los factores relacionados con la política de salud, que pueden limitar o no la decisión de acceder a la tecnología biomédica, realizando para ello un *survey*. Concluimos que los enfermeros consideran que se debe realizar una evaluación tecnológica en salud y del mismo modo una evaluación de los resultados obtenidos de su aplicación. Se deben garantizar tanto la universalidad en el acceso como la igualdad de oportunidades. El acceso a la tecnología debe ser decidido por los profesionales fundamentando el paternalismo y el racionamiento implícito. Objetan la práctica de la distanasia.

Palabras-clave: Tecnología biomédica. Asignación de recursos. Equidad. Paternalismo.

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The advancement in scientific and technological knowledge has marked the most developed societies, impacting on many levels (cultural, social, economic, financial, political) and in different areas, including the health. Concurrently, these same societies, due to the progress of civilization, have characteristics reflected in the short and long term, which are: decrease in the birth rate, increased life expectancy, population aging and the increase of chronic and degenerative diseases. The industry and companies, through advertising, try to sell the myth of longevity, perfect health, perfect body and eternal youth, enhancing the phenomenon of disease mongering defined as *the commodification of disease that broadens the borders of illness and makes the market grow for all those who sell treatments*¹.

This phenomenon arises from the ease with which these days are created needs in populations, leading them to consume resources that are often not needed or are not the best choice. Combining all these factors, we have enough components so that spending in the health sector increase exponentially, which is also strengthened by the waste and mismanagement. This scenario occurs in a time of global crisis that affects not only Europe and Portugal in particular, but also other countries. Thus, the access to health care based on a fair distribution of resources, equal opportunities and maintaining standards of quality assurance in care may be jeopardized without disregarding the part of the financing of the health system, which is determining in this process.

Distributive justice as an ethical principle presupposes fairness in resource allocation. However, the operationalization of this principle is difficult enough to consider the different philosophical currents that are associated with it and present different proposals to interpret the concept of justice. The libertarian theory advocated by Nozick or Engelhardt gives primacy to individual well; Bentham and Mill, mentors of utilitarianism, advocate the utility effectively demonstrated; Rawls, based on the concept of “social contract”, advocates equality of opportunities; Callahan highlights the common good and Daniels applied to healthcare the Rawlsian doctrine aimed at protecting a resource allocation based on equal opportunities. It has not been easy to establish criteria to ensure the Aristotelian principle of “equal treat equals and unequals unequally”, ensuring the practice of a horizontal equity and a vertical one.

Societies differ in the financing of their health systems, so in societies that have a national health service of public funding, the resource scarcity determines that the “need” is the basis for their provision. This contrasts with the companies in which

the ability of citizens to pay is the factor that determines access to resources, as happens in the United States of America (USA)². Such different access bases considered only are justified because in the market health there is regular price for supply and demand, aggravated by the phenomenon of induced demand supply then popping the need to prioritize and/or rationing because *demand for health care not constrained by price faces a supply of healthcare constrained by cost considerations. Under these conditions the demand for health services will always overcome their offer*³. *Within this framework, we can define prioritization of care as hierarchical choices between alternative care available within the limits of system resources*⁴, and rationing as an implicit or explicit policy which restricts specific measures of health care, reasoned by the fact that the costs are prohibitive for the health system and society⁴.

Several theorists point to several aspects as ways to solve the problem of resource distribution. Concepts such as biomedical technology assessment and prioritization/rationing care based on varying criteria are chances of resolution, while intended to ensure equity of access and efficiency in the results. In general, the problem of rationing can be considered in three parts: what is to be rationed, who decides rationing and how to ration. The priority should depend on a technology assessment, which can involve several methods, such as the collection of primary data, or integrative methods of synthesis, economic analysis^{5,6}, evidence-based medicine and the development of guidelines⁷⁻⁹.

Who decides the priority? Would they be audience, politicians, health professionals, managers, patients? What factors should be considered? Would they be age, quality of life, diagnosis, prognosis or the social role of the individual? Generally two types of rationing are taken into account: what is implicit or explicit. The implicit rationing is a closed, slightly transparent, discriminatory process located at providers' level and evaluating case to case. Explicit rationing is an open process to society, which is more transparent and located at the level of governments¹⁰⁻¹³.

Callahan believes that rationing should be performed outside the medical sphere and patients, based on transparent criteria and resulting from democratic deliberation: *The key point is that rationing decisions should be taken at the political level and not on a case*¹⁴. Other authors have argued that explicit rationing, when located at the level of governments, should not limit the freedom of medical practice and shall respect the heterogeneity of those who need access to resources^{10,13}. Generally

in public health systems the decision of access to resources uses implicit criteria¹⁰. The literature shows that health professionals also prefer the implicit rationing instead of the explicit one¹⁵⁻¹⁷.

Sabik and Lie¹⁸ published a study on the experience of explicit rationing in seven countries (Norway, Sweden, Israel, the Netherlands, Denmark, New Zealand, United Kingdom) and in Oregon (USA). In practice, the study showed that all health systems face problems of justice and efficiency in setting priorities for resource allocation. Several studies have been conducted in order to determine who should decide rationing and how to ration resources, highlighting some conclusions:

- 1) The audience wants to be involved in the decision process, but only with an advisory and not decisive role^{2,19};
- 2) The decision-making process is delegated to medical doctors^{2,19-21};
- 3) The age is a crucial factor to be considered in the decision-making process^{22,23}, both when it is based on the argument "fair innings"^{24,25}, and when it is considered in conjunction with other determinants such as quality of life, diagnostic factor and prognosis^{20,21,26};
- 4) Who have diseases resulting from unhealthy lifestyle habits should not be prioritized²¹;
- 5) Young people who work can be prioritized^{20,21};
- 6) Demented elderly, who are institutionalized, should not be prioritized²⁷.

Method

Considering the theme behind this research work – the bioethical foundations (in this work represented by ethical and health policy principles) should be the basis for access to biomedical technology – it is essential to specify and delimit the study, identifying the problem. Thus, based on the research performed, it is considered that prioritization of care (which, in turn, contains the problem of access to biomedical technology) should be performed and various aspects can be adopted for its implementation.

Considering that biomedical technology is an expense factor and that Portugal does not have a culture of biomedical technology assessment, there are few studies on this subject adapted to the Portuguese reality. The anxiety on the subject which led this work came from a nurse and therefore the

study was directed at this target audience, formulating the problem as follows: "How do nurses notice the access to biomedical technology from the bioethical point of view?". It was intended to achieve the following objectives:

- identify the ethical principles and factors related to health policy, which may limit or not the decision of access to biomedical technology;
- analyze the factors (related to health policy or ethical principles) that will underpin these perceptions.

This study aims to know the opinion of nurses, in order to, during their practice contribute to raising awareness on these subjects, a more critical social participation, developing knowledge in the social sciences. Based on the theoretical framework and the issues set out the following guiding questions, which include the variables in study:

- just because a technology is available should it be used in all patients for whom it is indicated?
- with regard to the patient would the diagnosis, prognosis, age and quality of life be likely to determine access to technology?
- should the unforeseeable success of the intervention be a criterion for decision?
- should the economic analysis of the technology be a criterion for decision?
- in order to decide would it be important to consider the interests of the institution, society, professionals, politicians or industry?
- should the will of the patient and/or family be a criterion for the decision?
- if it should not be used in all patients, who should decide the selection?
- should everyone continue to have access to all health care?
- should citizens who do not value their health have access to technology on a basis of equality of opportunity?
- should the payment of healthcare be kept in the current patterns or should it be changed?
- should the use of technology be dependent on guidelines and evidence-based medicine?
- should there be some type of evaluation of this technology?
- with regard to nurses, do sex, age, marital status, academic and professional qualifications, the roles they play, the time of professional practice and religious background influence their placement?

- do the individual and the common good influence the decision of access to technology?

With regard to the methodological choices made, and considering the technical procedures adopted, the objectives, how to approach the problem and its nature, the study is qualitative and quantitative, descriptive and exploratory because while we want to understand the views of nurses (qualitative aspect) and the relationship between the variables considered in the study (quantitative aspect). The survey was made available online through the website of the Association of Nurses, with 64,535 nurses presently enrolled.

The sample is non probabilistic by convenience, consisting of 506 nurses. This type of sample is easier to be obtained, but it limits the generalizability of the results because there is no guarantee of the representativeness of the target population. Data were collected by using opinion survey (in which statements have been made instead of questions), based on the Likert scale. The scale was consisted of a score of 1 (completely disagree) to 10 (completely agree). The statements were grouped considering two main dimensions: the “health policy” and “ethical principles”. In all possible statements we considered the ambivalence between “power” and “duty”, based on the question “all that can be done, must be done”.

Thus, in the first dimension called “health policy”, we met aspects such as: who should decide the access to technology (professionals, politicians, citizens, institutions and industry); how such access should be decided (based on age, diagnosis, prognosis, quality of life, social status, stakeholder interests); to what to be accessed, considering methods of technology assessment, results from the use, maintenance or not of the funding of the health system in place and universal access. In the second dimension, on “ethical principles”, we considered the following: euthanasia; dysthanasia and therapeutic futility; orthothanasia; death postponing; beneficence and non-maleficence; medical paternalism, the autonomy of patient *versus* family, distributive justice and the conflict of individual good *versus* common good.

The statistical treatment of the data was done by the program SPSS 17.0. During processing and analysis of obtained data descriptive statistics was used to characterize the sample. Exploratory factor analysis was used to identify the latent variables. The internal consistency of the factors was assessed by Cronbach’s alpha.

The analysis was complemented by nonparametric techniques: Mann-Whitney test, Wilcoxon test, Kruskal-Wallis test. We also used the Spearman correlation coefficient in the measures of association for ordinal variables.

Results

With respect to the characterization of the sample, the following results were obtained:

- mostly female, in the order of 79.4%;
- more than 50% of nurses in the sample are aged between 22 and 37 years old, which reflects the existence of young teams;
- most nurses are married and Catholic;
- most nurses is linked to the practical exercise of the profession (86.8%) and the remaining 13.2% are engaged in activities in the area of management;
- with post-basic training (specialization, postgraduate, master’s degree courses) we found 43.3% of nurses, and the remaining 56.7% presented based training;
- the time of professional practice shows a median of 11 years;
- with regard to the area of activity, 50.6% of nurses belong to the field of surgery and intensive care, followed by nurses in the medical field, with 23.9%.

Whereas the statements (or items) that constituted the questionnaire were represented in high numbers and opinions, we applied to factor analysis in order to determine the latent variables (or factors) underlying each dimension. In the first dimension, called “health policy”, of the 36 considered statements, three were excluded because they did not have statistical weight and 33 were grouped into six factors:

- 1) Technology assessment – the choice of the term stems from the fact it underlies the grouping of variables and meets aspects of biomedical technology assessment;
- 2) Survival of the patient – this designation arose because the diagnosis, prognosis and quality of life may suggest the possibility of predicting patient survival and help to decide the access to technology from the perspective of health policy;
- 3) How to ration access to technology – this terminology comes from the fact that grouped vari-

ables can be used as a criterion for rationing access to technology from the perspective of health policy;

- 4) Universal access – this term is linked to aspects related to the financing of health care and ensuring access for all citizens;
- 5) Results come from technological use – the choice of this term is related to grouped variables that direct us to aspects of the use of technology and, in particular, the findings resulting from this;
- 6) Who decides access – this designation is related to concerns that some stakeholders in technology access proceedings may present a perspective of health policy.

In the second dimension, related to “ethical principles”, from the 20 statements considered two were excluded because they do not have statistical weight and 18 were grouped into six factors:

- 1) Dysthanasia – the choice of this term results from the fact that it underlies the grouping of variables and meets aspects of therapeutic obstinacy and consequently foster dysthanasia arising from the use of technology;
- 2) Distributive justice – “what to give”, this designation arose because the junction of the variables directs us to the resources that should be or not given to all or only some ones;
- 3) Autonomy access – this terminology comes from the fact that the grouped variables are related to the exercise of autonomy in access to technology, without any indication of use of this same technology;
- 4) Distributive justice – “who decides”, this term is related to aspects of the decision of access to technology in the interests of justice and considering some of the actors in the process;
- 5) Paternalism/beneficence – the choice of this term is related to the grouped variables that lead to aspects of decision-making by professionals based on what they consider to be the best for the patient;
- 6) Individual good/common good – this designation comes from the fact the two items regarding the individual good and the common good have been grouped in a trend of prioritizing.

The Mann-Whitney test considered the value of p for two independent samples, before the mean values and the standard deviation of the factors and the following variables: gender, marital status, basic and post-basic training, having a religion or

not, exercise in management or care practice area. The Wilcoxon test considered the value of p for two paired samples, before the mean values and the standard deviation of the difference between “power” and “duty” in statements concerning the “diagnosis”, “prognosis”, “quality of life” and “professional opinion”. The Kruskal-Wallis test considered the value of p for six independent samples, before the values of mean and standard deviation of the factors and areas of activity where nurses work: medical hospitalization, surgical hospitalization, intensive/intermediate care, emergency, operating room etc.). We also used the Spearman correlation coefficient in the measures of association for ordinal variables (the 12 factors obtained were correlated with each other and the factors with the variables age and years of professional experience were also correlated).

All demographic variables such as gender, age, marital status, academic/professional qualifications, current roles, professional activity time and activity area demonstrated influence in the study, with the exception of religion.

Discussion

The biomedical technology assessment was a transverse factor with statistical weight in all sections analyzed; nurses agree with its application, which confirms the importance that the literature attributes to it. Taking into account the results of the use of technology was also a statistically significant factor in most aspects considered, together with the technology assessment they can validate the decisions that in health policy are made about what technology to use.

The need to base decisions on the available technology should be a political concern nowadays. Barros says that *ongoing technological innovation puts the challenge, which is also constant, to know when to be adopted and used... Hence the need for a careful evaluation of the adoption of these new technologies and their use decision in each particular case*²⁸.

When we correlated the 12 factors with each other according to the Spearman coefficient, we obtained the opinion of nurses on the situation analysis. The nurses disagreed that the use of technology fosters dysthanasia. When assessing the technology and consider its results, it is expected that dysthanasia is not intended, not only because of suffering it causes to the patient, but also by the unnecessary

use of resources, no benefits and high costs at different levels (personal, family, social, economic).

It is worthy, however, to remember that technology alone cannot be blamed for the practice of medical dysthanasia, because it depends on the good or bad use that they give to it. The hope is that professionals, in case they use it, will serve the best interests of the patient based on the principles of beneficence and non-maleficence, evaluating the results they get with their usage and knowing when to stop, when it is appropriated, i.e., if treatment proves itself futile.

As pointed Pessini: *Human life is a fundamental right, but not an absolute value. This tradition seeks the recovery of human dignity that integrates death in life. The denial of death opens the door to therapeutic obstinacy. There is a strong awareness of therapeutic limit investments. This brings the wisdom and need of discernment of which therapeutic investments that do not honor human dignity*²⁹.

The nurses agreed with the decision to access technology based on indicators of patient survival, such as the diagnosis, prognosis and quality of life, but they refute that situations of chronic diseases, rare diseases, end-stage, age or certain diseases serve as justification for limiting the decision. When the nurses disagreed that the abovementioned situations limit access to technology, they probably envision a form of discrimination.

Such discrimination could result from the fact that these individuals are not productive, they are consumers of scarce and expensive resources, and they can be seen as a "burden" to society. However, if we associate these criteria to aspects such as diagnosis, prognosis and quality of life, supported by nurses, they may no longer have to be considered discriminatory, but it is expected they constitute a reasoned decision on ethical principles and respect for human dignity.

On theoretical foundation, the patient's age is seen as important criterion to ration access to technology. Authors such as Daniels and Callahan consider that the age factor is individual, which must be weighted under the social point of view. Decreasing death at young ages and not prolong the life of old people, but alleviate suffering, are concepts that serve the common good, with the individual attention.

Hans Jonas also argues that the old people must give way to new, because if we would suppress death, we also suppress procreation: *In this starting once and again, which can only be achieved by exchanging again and again over, it might as well set-*

*tle the hope of humanity, their defense mechanism to keep from falling into boredom and routine, their opportunity to preserve the spontaneity of life*³⁰.

According to Jonas, the existence of a world of old people, without youth would only lead to the accumulation of long experience, it would not allow the privilege to see the world for the first time, to be dazzled before the unknown, to have their own children's curiosity and thus make it possible for knowledge to progress on an ongoing quest, a constant thirst for wanting to know more and more, as if we had never gone beyond the stage of "why?".

Also, Maynard and Williams²³, with the argument of "fair innings", justify rationing based on age. It seems to us that, before the abovementioned words, the prolongation of old age should not be a goal to reach, but the reality confronts us with the opposite, because the average life expectancy increases, the number of births decreases, and there is a growing number of elderly in society, intensifying the problem of chronic and degenerative diseases. The nurses disagree that age is a determining factor for accessing technology, but it seems that this factor, when associated with rare diseases, chronic diseases, disorders and terminal phase and should not be limiting the access decision, it is only safeguarding equal opportunities and the possibility to combine with other factors to jointly decide on access to technology.

Another question intended to determine whether access to technology should depend on the interests of the institutions, professionals, promoting industry or politicians. Nurses disagreed with this perspective. They also disagree that, from the point of view of distributive justice, they can be citizens, managers of institutions and politicians who decide what to give and who to give on health. However, they agree that in order to have access to the technology, the professional opinion should be considered, based on the best for the patient. In that placement we found the validation of exercise of paternalism, reinforcing the responsibility of professionals for decisions on health.

The nurses agreed with the universal access to technology, which should also consider the results of their use and the professional opinion based on what is best for the patient. In the matter of distributive justice, the respondents agreed in a little sharp way with to give everything to everyone. This may result from the fact that there is not an opinion formed between this professional class as to what is a fair distribution of resources, about what to give and to whom they must give.

Issues related to the financing of health services with the possibility to maintain or change the method of financing were not evaluated because they did not have statistical weight. We can speculate that this is resulted from the fact that nurses do not consider they have thought of another type of financing, or considered the matter, but failed to take concrete opinion about what to change.

Similarly, there was no statistical weight the possibility of the citizen who does not value their health does not have access to technology in equal opportunities. Possibly the opinions scattered among those who considered that personal responsibility should weigh the decision of access to health care paid for with public money and that they considered that, based on the freedom of individual decision, such action should not be a limiting factor to access to care.

Regarding the matter of the will of the patient and/or family being considered for the decision, the nurses understand that when there is no indication, there should not be access, even if treatment is paid by the patient. This position seems to make clear the prevalence of the principles of beneficence and non-maleficence about autonomy, avoiding the occurrence of futility and waste, even if they happen as a result of the exercise of autonomy of the patient or family's will. It also demonstrates that nurses consider that taking as parameter only the will of the family is always considered as a complicated decision, because we should not forget that it cannot be free of conflict of interest. The access to technology, when it is not indicated, and particularly in treatment situations, can mask the need to prolong the patient's life to preserve the interests of third parties.

When the nurses disagreed that the patient or family to pay for access to technology when not indicated, they just consider the user's perspective, but when we consider the health market and the perspective of provider, it is legitimate they consume products if they understand so. The main objective of companies is to make a profit, whatever their line of business – and health is no exception to this rule. The advertising of pharmaceuticals, medical devices and diagnostics are examples of this, as well as the phenomenon of “commodification of disease” (disease mongering). It seems that nurses are not awake for this part of consumption that may exist in the healthcare market.

This fact is important because health professionals are educators agents who can advise citizens about what favors them or not in relation to what is provided by the companies, i.e., since they them-

selves have no conflicts of interest to acquire these products, or face situations of practice of defensive medicine or pressure from third parties.

The “common good/individual good” factor intended to indicate what would be the perspective of nurses about the most valued good for access to biomedical technology, aimed at fair distribution of resources. Although in a very little labeled form, the nurses agreed with the individual good and disagreed on the common good. This fact directs us to a policy of primacy of the human being, since one cannot forget that *it is the singular or individual person that carries the ethical meaning of their existence... the purpose of the political community and the state are other than those of natural personal ethics and existence*³¹. Accordingly, in case of conflict between personal ethics and political purpose intended, it is this which should be predominant, because they are not the people who serve politics, but it is politics that should serve people.

As Renaud³⁰ mentions, this situation does not mean that the State cannot require sacrifices people in view of the common good understood as an individual good, but in practice it will mean a sacrifice consented by the citizens themselves, for the benefit of others and based on a political decision. Arbitrating this dilemma between individual and common good is not an easy task, and it is a role that can be taken by the many stakeholders cited as politicians, citizens, industry which produces health technology, health professionals, health institutions, patients and managers.

Considering the situation of economic crisis that Europe is experiencing, particularly Portugal, the disagreement of nurses regarding the unnecessary consumption of resources and the dilemma between individual and common good reflects an ethical concern of fairness and futility, since the individual costs are reflected necessarily in the collective and decisions should therefore be considered to ensure a fair allocation of resources.

According to the same author, *in many cases the good of the people is another form of 'common good', in the sense of a good shared by a group of people individually considered. In many cases, the common good – or good of the institution – is in conflict with the social good or good of the people, not the good of a person, but the good of many or all people as individuals. The economic life presents many instances of this style*³².

Reconciling the two mentioned goods is not always possible, so it is expected that decisions have

to be made accordingly devote unconditional respect for human beings, either directly or indirectly, bearing in mind that probably some “price” should be paid, i.e., between two evils choose the lesser evil, as Aristotle advises.

Aspects related to biomedical technology often raises the question if all we can do we effectively should do. This issue was attempted to be addressed in this paper in relation to variables that could influence the assessment of health professionals, such as patient age, diagnosis, prognosis, quality of life and professional opinion based on what is best for the patient. Regarding age, “may” was eliminated in the pre-test, with nurses taking into account that patient age should not be a determining factor for access to technology. According to the Wilcoxon test, quality of life and professional opinion “may” and “should” be decisive. The diagnosis and prognosis “can” but they “must” not be decisive. Analyzing these placements, duty while imperative to act according to ethical awareness is explicit in the responses, because in situations in which power is recognized to be practiced is safeguarded by associated “duty”.

The other statistical tests allowed complementing the analysis of the study. The religion professed by nurses did not influence the study. Although literature does not mention this aspect, it could not be forgotten because religion theoretically integrates the interiority of the individual and also to those who have no religion, spirituality is present in all human beings. The age and duration of professional practice influenced the study. We believe that the time and experiences accumulated may make the vision of the problem under consideration. Sex has also shown to influence the study, which may be due to inherent biological and genetic differences, and other extrinsic factors such as education, social role, culture and education, which may lead to different ways of seeing the same problem.

The influence of marital status in the nurses’ perspective on access to technology can be related to thinking two or thinking individually. Depending on the close relationship that one have with someone in the area of affect, analysis of situations will be influenced by the opinions of that other, who when exercising the dialectical counterpoint they can make the difference. Training levels (base or post-base), the roles they play (managing area or practice care) and areas of activity where the exercise also been shown to influence the study. Once again the experience, training and knowledge obtained from the training or the experience may condition the analysis of situations.

Final considerations

We can see that the nurses felt that universal access to health care, ensuring equal opportunities and non-discrimination of patients are fundamental to be met in the decision of access to technology in the context of health policy issues. This position falls within the pillars underpinning the Portuguese National Health Service. Discrimination of patients may be a form of explicit rationing, but the nurses, despite the age issue, lifestyle or others, did not accept it, plus the fact that it is unconstitutional in Portugal.

Another equally important pillar is the gratuity of these services, and this aspect is currently at risk for costs that are generated and the difficulty of financing the country is experiencing. Faced with this problem, the nurses showed no opinion on the funding that should be adopted and if it should be changed. In parallel, the policy of access to care has been “give everything to everybody”, and nurses, despite the slightly marked positioning, considered that this should be maintained. This situation may reflect certain complacency because as everything is permitted without the need to limit, it is easier to provide care, because who have to decide on what to do has no limitations. If there were limits to some extent they would be obliged to give reasons for decisions, justifying the ensuing consumption and making decision-makers responsible for the relation consumption *versus* obtained results.

The ages of the respondents are young, in their practice they have never known another reality, not only in terms of training but also in terms of citizenship, and they were never made aware of the issues related to the financing of various sectors of the country. This fact is important because nurses are caregivers, but also consumers of resources. If in this duality they cannot have defined ideas about what to give, who to give, how to give and the best financing way, this difficulty is accentuated by the bulk of citizens, impairing decision making in an ethical context, but also intended as democratic through public opinion.

From the point of view of ethical principles, the exercise of patient autonomy is not safeguarded; even when they want to pay for unnecessary treatments. On the one hand, paternalism prevails, with beneficence and non-maleficence assessed by the vision of professional based on what they consider the best for the patient. On the other, is also evident avoiding the futility and dysthanasia, even if the patient requests so. The fact that individual good take precedence over the common good fol-

lows the guidelines of Portuguese policy and funding in force.

Continuously, much technology is available, of which nurses are users and they are not required to contribute to opine about the relevance of their acquisition. Nurses are an organized professional group, with their own knowledge, but also complementary and interdependent and their participation should therefore be increased in multidisciplinary groups or committees, appointed to evaluate new biomedical technology to be made available to market.

When a new technology is released to market, it should be asked which health gains actually are supported and which economic analysis was performed to justify be publicly financed, taking into account the economic capacity of the country. Given this, it is essential the existence, at the level of each country, of entities conducting these reviews. These entities should be reputable and established by experts with technical and scientific knowledge without political connotations and without conflicts of interest. It would also be important to share the results with international organizations which, for several years, develop this type of activity, allowing for mutual benefit with a view to maximizing results. However, the existence of such entities is not enough, it is imperative to implement effective con-

trol mechanisms and legal accountability, regarding the guidelines that perhaps are issued.

The health professionals should be made aware of this topic of access to biomedical technology. Promoting open discussion of these issues should be considered and their professional associations should be more active in taking this responsibility. Also, programs at the undergraduate education and post-graduate level of courses related to health should include or reinforce topics related to this problem.

We do not know if it will be possible to continue to “give everything to everyone”, but that is not the paradigm of distributive justice. Aristotle argues that justice is equal to the equal and unequal to the unequal, so that the fair distribution of goods respects the principle of proportion. Maybe it is fundamental to rethink what to give, to whom to give, and how to give, as well as the financing molds of the Portuguese National Health Service should change or not. When Kant says that man is not a mean for the use of any will but an end in himself, he defines a beacon where the power ends and the duty begins, i.e., when new health policies may be implemented, it should be done so with respect for human dignity and solidarity among people.

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