

ORIGINAL ARTICLE

A study on the ethics of microallocation of scarce resources in health care

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Objectives: This study attempts to analyse the ethical dilemmas arising from the microallocation of scarce health care resources, in terms of deontology and utilitarianism.

Methods: A group of 395 people were interviewed in the region of Diadema, greater San Paulo, Brazil, while visiting patients in the only state hospital in town. Each interviewee was given a list of eight simulated emergencies (see appendix). In each of the eight cases the interviewee had to choose which of the two patients described, both of whom suffered from exactly the same problem, should receive the only hospital bed currently available. The differences between the hypothetical patients were as follows: age, gender, family dependency, and lifestyle. Each interviewee was asked to justify one of their responses. These responses were then analysed.

Results: The results pointed to the co-existence of deontological and utilitarian orientations among the people interviewed. A tendency to give priority to the destitute was revealed throughout the research, contradicting the idea that society, valuing only productive people, wishes only such people to receive the most resources, thus maximising the benefits to be gained from resources. The results showed that people's disapproval of the alcoholic was stronger than that of the nicotine abuser.

The complex changes which have occurred in health systems around the world over recent decades raise ethical dilemmas regarding the allocation of scarce health care resources. The new demands for medical care and seemingly uncontrollable costs have placed great burdens on both public and private sectors of health care systems. There is great pressure, therefore, to find new strategies for the distribution of these resources.¹

The most important thing is to establish reasonable criteria for decision making in macro and microallocation of scarce health care resources. This issue is closely linked to the ethical principle of justice, which can be interpreted in many different ways in a pluralistic society.

Decisions regarding justice and the allocation of scarce health care resources arise in the midst of complex social dynamics, which involve various economical and cultural factors, and an atmosphere influenced by different views of what might constitute a good society.²

While macroallocation of resources concerns public health policies, microallocation is concerned with selecting which individuals are to receive scarce or insufficient health care resources.³

The introduction of haemodialysis at the Swedish Hospital, in Seattle, Washington, US, in the early 60s, raised ethical concerns involving the microallocation of health care resources. Because of the high number of kidney problem sufferers, a committee was set up in order to establish criteria for the use of the haemodialysis machine. This did not, however, prevent pressure on the use of the new technology. The criteria used raised such ethical questions as whether the practice had been discriminatory.^{4,5}

The Brazilian federal constitution, written in 1988, acknowledges health care as a social right. It states that health care is a right of every citizen and that the government has a duty to provide it. It also created the national health service, Sistema Único de Saúde (SUS), which ensures access to health care services for all citizens, regardless of their gender, age, and ethnic, religious, or economic background. The scope of services assured ranges from primary care procedures such as immunisation and prenatal assistance, to tertiary care medical

attention such as cardiac or kidney transplants, haemodialysis, and cancer chemotherapy. All the public health care services are incorporated into the national health system and private health care services are allowed to participate in a supplementary way if their providers so wish. None the less, because of the huge population of Brazil (estimated at 165 million in the year 2000, most of them living in poverty) and difficulties regarding the financial support of the national health system the delivery of medical treatment is inadequate. There are long waiting lists for transplants, haemodialysis, and surgery at the tertiary hospitals; the primary care centres cannot cope with the demands for their services. Therefore, very often, people have to wait two or three months in order to be attended by a doctor or to undergo a diagnostic test. The emergency medical care centres are so overstretched and have so many shortcomings that it is necessary to preselect which patients will receive emergency treatment.

Contrary to what happens in countries such as Great Britain, Norway, and Australia⁶⁻⁸ research into situations involving microallocation of scarce resources is unknown in Brazil.

This fact and the real situation of the Brazilian national health system, as described above, encouraged us to carry out this exploratory study in order to get some idea of public opinion about the methods used to select patients for treatment, especially in emergency situations, when faced with a shortage of resources in the public health sector.

METHODOLOGY

This study was carried out between September and November 1998, in Diadema, a city of 315,000 inhabitants located in the metropolitan area of San Paulo. Diadema faced a major development and population boom during the 50s and 60s, various automobile industries came into the area. Most of its population is destitute and lives in appalling conditions. Therefore, it is an area which has long experience of shortages in many, if not all, areas of health care resources.

The people approached for interviews were visiting patients in the only hospital in town which operates under the national

health system. After we had described the contents of the survey and the purpose of the research, and had assured prospective interviewees that their responses would be confidential 395 people consented to participate. They formed a sample comprising of, 147 male and 248 female research subjects. The age of those interviewed ranged from 20 to 60 years. As for educational background, 99% of the interviewees had not reached the 3rd year of high school.

Subjects were given individualised forms which consisted of eight hypothetical situations (see appendix). Each simulated scenario required the interviewee to choose between two patients suffering from exactly the same health problem and who had been allocated to a hospital where only one bed was available, at the time. The interviewees had to choose the patient who would be granted the only bed available: the other patient would continue to receive treatment at the emergency medical care centre. However, as this treatment was not the best one for his condition, he could get sicker or even die while waiting for another bed to become available. The differences among the hypothetical patients was: age, gender, family dependency, and lifestyle. The interviewees were requested to justify one of their choices, from among the eight presented scenarios. The interviewers chose the question which should be justified. The interviewers maintained a written register of these justifications.

Although the interviewees could refuse to make a choice, this option was not openly expressed to them because the purpose of the study was to explore deontological and utilitarian trends among the general public when confronted with the need to select someone to receive health treatment. So, the refusal to make a choice was considered only in the quantitative analysis of the results and as the purpose of the study does not include the investigation of the moral values involved in these cases, the interviewees were not asked to justify why they refused to choose anyone.

Utilitarianism evaluates actions according to their consequences. It posits that, generally speaking, actions are ethically correct when they aim to promote wellbeing, pleasure or enjoyment for the majority. The aim of utilitarianism is the maximisation of welfare.⁹⁻¹¹

Deontological theories, on the other hand, require that human actions and attitudes must be based on duty and the use of reason. They state that the moral worth of an action should not be judged only in terms of its consequences.¹²

One such deontological theory was developed by John Rawls, in the 70s. In his theory he defends the idea of justice as equity, recognising, however, the element of difference. Actions are ethically acceptable provided they guarantee the fundamental rights of the people and as long as the benefits derived from them are fairly distributed, particularly among the weaker members of society.¹³

ETHICS

This study was approved by the research ethics committee of the Faculty of Public Health, at the University of San Paulo.

RESULTS

Age factor

Ine one of the scenarios a seven year old child and a 65 year old man, both victims of a car accident, were in need of a hospital bed. The child was prioritised by 72% (287) of the interviewees, against 22.8% (90) who preferred the elderly man. Only 4.6% (18) of them did not make a choice in this case. The justifications here were mainly based on the fragility and dependency of the child, emphasising an equitable tendency. Various reasons were given, such as: "The child must be protected"; "The child is dependent"; "The child is helpless, more fragile"; "Child's life is just beginning".

Utilitarianism also was observed in some answers: "The life expectancy and potential of the child is greater than of the man"; "The child has a future to look forward to, the old man, we never know".

The seven year old child, however, lost his/her space to a 12 month old baby. Both having been taken to hospital for the same reason as above. In this case 70.9% (280) of the subjects chose the toddler, 20% (81) opted for the seven year old child and 8.6% (34) did not select either. The reasons given were: "The baby is younger and defenceless"; "The baby requires more care". In this case, the justifications involved the protection of the weaker, pointing to a deontological rather than a utilitarian trend.

Nevertheless, those who chose the seven year old child revealed a utilitarian position which preaches the maxim, "do no harm", because what they took into consideration in this case was the idea of extending welfare and minimising suffering. They went on to say: "The little baby would not feel so much pain, as he would not know what was happening"; "The seven year old child is much more incorporated into the family life"; "The toddler wouldn't suffer so much because he wouldn't know what was going on, but the seven year old child would know what was happening and he would suffer more."

The next scenario involved two men. One was 25 and the other 65, they also were victims of a car accident. The 65 year old man was selected by 60.8% (240) of the interviewees, while the younger one was selected by 36.2% (143). In this case 3% (12) of the subjects did not make a choice. Again, a deontological tendency was noticed, since the elderly was seen as the weaker in this situation. The arguments were that the physical resistance of an old person was not equal to that of a younger one: "The old person needs more attention, things are more difficult for him". "He is older, therefore he is weaker".

Those who gave priority to the younger man, however, used a utilitarian criterion: they said that the life expectancy and social productivity of the younger man were more important: "The recuperative powers of a younger person are greater than of an older one". "The younger one has a future ahead, and the older one has lived enough". "The younger one has to be attended first because he can do useful work".

The gender factor

The scenarios presenting gender differences used the same situation of a car accident, but this time involving a man and a woman, both in their thirties. Priority was given to the woman by 79.5% (314) of the respondents, against 11% (44) who chose the man. On this item 9.4% (37) did not make a selection. Although pointing out of the fragility of women and their need of protection might be considered a sexist comment—very common in Brazilian Latin culture—some justified their selection by mentioning that women were physically weaker than men and needed to be protected: "Men are more robust so they can bear pain better". Utilitarian influences were observed in comments from interviewees that women were the support of their families and responsible for the household: "Women are child bearers"; "Women have to take care of the kids and the house".

The family dependency factor

When faced with the dilemma of having to choose between two women, a mother of three children and a mother of only one, both suffering from pneumonia, the first was chosen by 89.6% (354), on the grounds that many more people depended on her. Only 6.9% (27) of the respondents opted for the other woman and the remaining 3.5% (14) did not choose either. Those who chose the mother of three children remarked as follows: "She has got to recover quickly to look after her children"; "If she dies who would take care of her children?"; "It is easier to find a home for one child than for three".

When the dilemma was to choose between a married and a single woman, both also with pneumonia 75.2% (297) selected the married woman, whereas 17% (70) gave priority to the single one and 7.1% (28) did not choose either. A strong utilitarian tendency was visible here since the main question in the interviewees minds seemed to be who was going to look after the house and the husband if the wife died. Comments were as follows: "The married one has a house to take care of"; "She has got a husband to worry about."; "She might have children to take care of".

The lifestyle factor

This scenario portrayed two women, both suffering from liver complications. The first one had a problem caused by alcohol abuse and the other was infected by the hepatitis virus. The great majority of the interviewees gave preference to the one who had the hepatitis complication: while 82.3% (325) of the respondents chose this option, only 14.4% (57) of the interviewees selected the alcoholic woman. A large number of people made remarks criticising the alcohol abuser, such as: "She knew what she was doing."; "The woman suffering from hepatitis did not choose her condition so she deserves to be treated."; "The alcoholic knew that alcohol was bad for her, but she continued drinking"; "People who drink do it because they like it"; "She looked for it".

The disapproval of lifestyle when the interviewees had to choose between two men, a smoker and a non-smoker, both suffering from bronchitis, was not as strong as in the case of the alcoholic women. Of the people interviewed, 51.4% (203) chose the non-smoker and 45.1% (178) selected the smoker. Only 3.5% (14) did not opt for either. Those who preferred the smoker justified their choice on the basis of the vulnerability of the smoker: "The smoker needs more help than the other."; "As he smokes the crisis must be more complicated"; "The life of the smoker is at a greater risk than the non-smoker"; "If he got a chance to be treated, he might learn his lesson and quit smoking". Nevertheless, comments were quite hard on the smoker: "Once a smoker, forever a smoker, he cannot give up"; "The non-smoker carried the disease inside him, the smoker, on the other hand, has provoked it"; "The non-smoker was not to blame for his state"; "Cigarettes kill more than the H-bomb so why does he smoke?".

DISCUSSION

According to the results analysed, both utilitarian and deontological trends coexist without one predominating over the other. Equitable tendencies could be seen when the interviewees gave priority to the weaker, the more defenceless, and the more vulnerable patients, as in the situations involving the elderly man competing with the 25 year old man, and the toddler competing with the seven year old child. In these cases the the majority of the respondents gave priority to the elderly and the toddler and sacrificed those who could mean a better cost/benefit balance to society (the 25 year old man and the seven year old child).

The findings of priority for the toddler instead of the seven year child contradict our initial hypothesis and they also differ from the results of Charny *et al.* (1989). In their research, carried out in Cardiff, Great Britain, 719 residents were asked to opt between two children suffering from the same health condition. One was two years old and the other eight years. The respondents gave priority to the older child because he could be seen as a "person" and his parents had already invested efforts and emotions in him.⁶

People interviewed showed a great deal of concern for life expectancy and life potential by selecting the child instead of the elderly, which can be considered a utilitarian orientation. These findings illustrate the view of Brazilian society that children must come first in health services. This community value is so strong that a government act passed in 1990 states

that in situations of similarity of clinical status, the priority of access to health care services must be given to children and adolescents.¹⁴

Regarding children as more important than other age groups is not unusual. In order to learn the preferences concerning priorities in health care services, Great Britain carried out research with a representative sample of the population served by the English National Health Service aged from 20 to 73 years and the results showed a preference for children rather than the elderly.¹⁵

The choice of the elderly man as opposed to the younger man, in our study, suggests an equitable tendency. This contradicts the idea that modern society, devoted to the cult of youthfulness, only values young productive people. These findings are also consistent with the increasing size of the elderly population in Brazil and with the national public policy of assistance and protection for this age group which was established by a federal law in 1994.

These results also differ from those of a study in The Netherlands, which asked people to choose between a 35 year old man and a 60 year old man, both in need of a kidney transplant. The younger man was chosen, because he was more valuable to society.¹⁶

Family responsibility was evaluated in terms of the number of family dependants who might benefit by each choice. "Do not harm the greater number of people" seems to explain the selection of the married woman and the woman with a larger family. This orientation is based on the principle that minimising pain and suffering of a bigger group of people must be the first priority; so any decision taken to benefit someone in times of shortage of resources must ensure that benefits will go beyond the individual and will be distributed among husband/wife and children as well.

In spite of methodological differences, we can say that our results differed from those found in research that took place in Australia in which only 33% (182) of 551 interviewees opted for a person who had dependants whereas the majority treated both those with and those without dependants equally.⁸

Deontological orientation played a fundamental part in the way people viewed the alcoholic and the smoker. Since some people consider individuals responsible for their own acts, so the results point to the punishment of those who lead an unhealthy life and have habits likely to jeopardise their health.

Our research showed that people's disapproved more of the alcoholic than the nicotine abuser. This is similar to what was found in research done by Nord *et al* (1995), when only 59% of the respondents said the non-smoker should have priority in a case where pulmonary treatment was needed.⁸

To sum up, it is important to emphasise that this research is an exploratory study. Thus its findings cannot be generalised to Brazilian society as a whole, especially because it was carried out in a small city and we need to take into account the cultural and social differences of the population involved. The results seem to confirm, however, that it is a tough matter to make decisions in situations of scarce health care resources because of the diversity of moral orientation which occurs in our country. Nevertheless, this study shows there is an urgent need to improve the delivery of health care services in order to minimise ethical dilemmas regarding microallocation of the resources. If choices have to be made, however, they must be grounded on respect for human beings, and not based on prejudices or stereotypes.

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APPENDIX

Sample form with the questions presented to the interviewees

A seven-year old child *v* a 65-year-old man, victims of a car accident. Criteria = age.

A 12-month-old toddler *v* a seven-year-old child, victims of a car accident. Criteria = age.

A 25-year-old man *v* a 65-year-old man, victims of a car accident. Criteria = age.

A 65-year-old man *v* a 30-year-old woman, victims of a car accident. Criteria = gender.

A mother of three infants *v* a mother of an only child, both suffering from pneumonia. Criteria = family dependency.

A single woman *v* a married woman, suffering from pneumonia. Criteria = family dependency.

A 40-year-old woman, alcohol abuser, suffering from liver problems *v* a 40-year-old woman also suffering from liver problems caused by hepatitis. Criteria = lifestyle.

A 30-year-old male smoker *v* a 30-year-old non-smoking male. Criteria = lifestyle.



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