***Proposing a set of ethical guidelines for Iranian physiotherapists: Result of a modified Delphi technique***

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**Abstract**

Physiotherapy services codes of ethical conduct must be compatible with local culture.Advanced literature reviews, focus group discussions followed by a modified Delphi technique were used to achieve consensus, the data were analyzed, and the final version of the code of ethics was produced. At first, the collection of different ethical codes yielded 132 items. In second stage, repeated items were discarded, some new items were added, and all were categorized into three domains. Overall, 175 items were considered in Delphi stage. Subsequently the items reduced to 134 including 59 in the treatment, 41 in the research, and 34 in the education domains. The resulting ethics codes support patients, researchers, students and teachers in physical therapy field with respect to current Iranian legislation and culture.

**Keywords:** ethics, physiotherapy, physical therapy.

**Introduction**

Codes of conduct and ethical requirements to define standards of behavior for a professional area are common ways to advance professional integrity by strengthening guidelines and regulations (1) . An ethical framework is especially necessary in decision-making situations, which are an unavoidable issue in physiotherapy. The decisions made by physiotherapists frequently involve ethical considerations. Thus independence and autonomy in decision-making require a specific ethical framework to identify and discuss ethical issues faced by physiotherapists (2).

Between 1970 and 2000, two approaches emerged to define ethical frameworks. Initially, a philosophical approach concerned how physiotherapists should conduct their professional activities. Later, biomedical values were posited as a basis for ethical behavior. A more detailed look at the literature suggests that broadly, between 1970 and 1979, physiotherapists were viewed as decision makers. In the following decade from 1980 to 1989, philosophical principles were applied in physiotherapy; and between 1990 and 2000, the relationship between physiotherapists and patients received increasing attention. Between 2000 and 2007, a focus on ethical issues emphasized the link between theory and practice in clinical physiotherapy (3).

Since 1935, national and international associations have developed specific codes of ethics in physiotherapy (4). The American Physical Therapy Association (APTA) proposed eight principles including 38 ethical recommendations in an effort to build foundation for physiotherapy practice among its members (5). In addition, the Australian Physiotherapy Association (APA) sought to provide qualified physiotherapy services for all Australians under nine principle and 59 recommendations for professional conduct (6), and the World Confederation for Physical Therapy (WCPT) currently expects physiotherapists to abide by eight principles and 40 recommendations for good practice (7).

It has been suggested that the societal dimensions of ethical obligations affect codes of ethics in different societies (4). In addition, cultural diversity in services is a clear factor in the healthcare professions (8). Bialocerkowski and colleagues suggested that physiotherapists should modify their approach so that it becomes “compatible with clientele’s culturally-diverse needs” (9). This approach would ensure that an appropriate match between medical services and culture is foregrounded.

In Iran, because of r local considerations, including the Muslim population of the state, physiotherapy services and consequently codes of ethical conduct must be compatible not only with best medical and healthcare practice, but also with Islamic culture and Persian civilization. Unfortunately, a national consensus regarding a code of best professional practice for physical therapists had yet to emerge. Within the nationwide plan termed the Health Sector Evolution Plan, the task of developing a Territorial Health Plan was assigned to the researchers of the present article. Because of the importance of achieving a general consensus and in order to incorporate the most effective practical features in the national codes of conduct, we decided to use a modified Delphi technique to develop ethical guidelines for physiotherapists in Iran.

**Methodology**

The core members of the research team consisted of physiotherapy and medical ethics specialists and faculty members. After the project was designed, the steps described below were taken.

***Advanced literature review***

The first stage of the study consisted of reviewing both the healthcare ethics and rehabilitation profession literature to develop a commonly understandable terminology. The authors then studied and discussed similar current national guidelines from around the world to identify simple independent concepts in documents dealing with relevant aspects, and to identify documents and concepts in existing guidelines that were potentially applicable to Iranian culture and society. Five meetings were held at the dean’s office of the School of Rehabilitation Sciences, Shiraz University of Medical Sciences. At these meetings, brainstorming was used with a nominal group technique to develop a tentative draft that reflected the goals of the final set of guidelines. Meetings held at the dean’s office took place around a round table, and each expert was asked to contribute her or his five most relevant and necessary articles. Duplicate recommendations were counted only once.

***Focus group discussion***

In the second stage, the results of the literature review were classified, and the initial draft of the guidelines was validated through smaller focus group discussions.

A panel of experts was invited to participate. This group consisted of three faculty members from the physiotherapy department and two faculty members from the medical ethics department. They were selected because of their experience in physical therapy ethics. Over the course of nine meetings the items in the initial draft were discussed, and the most suitable terms in Persian were chosen by 100% consensus among the participants. These meetings were held between January and March 2016 around a square table in the office of the deputy dean. Each meeting lasted for three hours or longer. Finally, the results from these expert consultations were categorized into treatment, research and education domains, and the next draft of the guidelines was prepared for the Delphi technique stage to achieve nationwide consensus.

***Modified Delphi technique to achieve consensus***

In the third stage a broader range of participants were invited to take part in the modified Delphi technique, with the goal of 75% of consensus (10). The participants consisted of members of the focus discussion group plus six expert faculty members from the physiotherapy departments of university rehabilitation schools around the country. For this stage a questionnaire and5-point Likert scale were prepared. The questionnaire items were not all closed, and the instrument requested feedback on a total of 175 items in three different domains. In the first Delphi round, the questionnaire was sent to 11 participants by email. The participants were asked to score each item from 1 (lowest) to 5 (highest).A space for additional comments and explanations was provided to make the questionnaire semi-open and semi-closed, and to allow respondents an opportunity to elaborate on and clarify their opinions regarding each item in the draft guidelines, and to raise new questions.

In the second Delphi round, the items with less than 75% consensus and the respondents’ comments were sent to participants for re-scoring and review of the previous responses. Participants were given time to discuss their reasons for all comments.

In the third Delphi round, participants were allowed to change their responses or provide additional comments in support of their opinions. Finally, the data were analyzed and the final version of the code of ethical conduct for physiotherapists was generated.

**Results**

Demographic information for participants from the schools of rehabilitation sciences and departments of medical ethics at different university schools of medicine are presented in Table 1.

The literature review and collection of different codes of ethical conduct in the first stage of the study yielded a total of 132 potential items. In the second stage of the study, repeated items were discarded, some new items were added, and all items were categorized into three domains, i.e. treatment (41 items), research (67 items) and education (67 items). In all, 175 items entered the Delphi technique stage.

Ten out of 11 participants in the third stage (Delphi technique) completed the study. During the Delphi technique phase 20 items were added in the treatment domain, two items were deleted and nine were changed. In the research domain, three items were added, 29 were deleted and four were changed. In the education domain, five items were added, 38 were deleted and 30 were changed. Subsequently the number of items was reduced to 134:59 in the treatment domain, 41 in the research domain and 34 in the education domain (Table 2). All final items in the code of conduct were accepted by consensus among more than 75% of all experts consulted.

Table 1: Demographic information on participants in the modified Delphi technique

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Variable | Advanced literature review stage (n=9) | | Focus group discussion stage (n=5) | | Modified Delphi technique stage (n=10) | |
| Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Age group in years |  |  |  |  |  |  |
| 31-40 | 3 | 33.3 | 3 | 60 | 4 | 40 |
| 41-50 | 4 | 44.4 | 0 | 0 | 4 | 40 |
| 51-60 | 2 | 22.2 | 2 | 40 | 2 | 20 |
| >60 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sex |  |  |  |  |  |  |
| Female | 3 | 33.3 | 2 | 40 | 2 | 20 |
| Male | 6 | 66.6 | 3 | 60 | 8 | 80 |
| Professional practice |  |  |  |  |  |  |
| Rehabilitation | 9 | 100 | 3 | 60 | 8 | 80 |
| Physician | 0 | 0 | 2 | 40 | 2 | 20 |
| Medical ethics | 0 | 0 | 2 | 40 | 2 | 20 |
| Years of professional practice |  |  |  |  |  |  |
| ≤10 | 2 | 22.2 | 2 | 40 | 3 | 30 |
| 11-20 | 4 | 44.4 | 1 | 20 | 2 | 20 |
| 21-30 | 3 | 33.3 | 2 | 40 | 5 | 50 |
| >30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Years of practice as medical ethics activist |  |  |  |  |  |  |
| ≤5 | 5 ⃰ | 55.5 | 1 ⃰ | 20 | 4 ⃰ | 40 |
| 6-10 | 3 ⃰ | 33.3 | 1 | 20 | 2 (1+1 ⃰ ) | 20 |
| 11-20 | 1 ⃰ | 11.1 | 3 (1+2 ⃰ ) | 60 | 4 (1+3 ⃰ ) | 40 |
| 21-30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Academic position |  |  |  |  |  |  |
| Full professor | 0 | 0 | 0 | 0 | 0 | 0 |
| Associate professor | 2 | 22.2 | 2 | 40 | 4 | 40 |
| Assistant professor | 6 | 66.6 | 2 | 40 | 5 | 50 |
| PhD candidate | 1 | 11.1 | 1 | 20 | 1 | 10 |

⃰Nonsystematic reading and class participation

Table 2: Ethical considerations identified with the Delphi technique

|  |
| --- |
| **Part 1: Ethics in providing physiotherapy** |
| **A: Respect for patients' human dignity and rights** |
| A-1: Providing the best quality of care |
| A-2: Respect for patients’ privacy and confidentiality |
| A-3: Honesty and veracity |
| A-4: Compassion and empathy |
| **B: Equity and justice** |
| **C: Beneficence and non-maleficence** |
| **D: Social responsibility of professionals** |
| **E: Ethics in professional relations** |
| **F: Complying with society norms and laws** |
| **Part 2: Ethics in research in physiotherapy** |
| **A: General considerations in research** |
| **B: Specific considerations in research** |
| B-1: Before the research |
| B-2: During the research |
| B-3: After the research |
| **Part 3: Ethics in physiotherapy education** |
| **A: Ethics of teaching** |
| A-1: Academic empowerment of students |
| A-2: Ethics for teachers in clinical education |
| A-3:Adherence to social and cultural norms |
| **B: Ethics of coworkers, institutions and professionals** |
| **C: Ethics for students** |
| C-1: Optimal usage of teachers' knowledge |
| C-2: Ethics for teachers in clinical education |
| C-3: Adherence to social and cultural norms |

**Discussion**

The aim of this project was to achieve a general consensus for establishing a draft for ethical guidelines for physiotherapists in Iran that could be used as a draft to develop official national guidelines by the authorized authorities such as Medical Council of Iran, Physiotherapist Associations or Supreme Council of Medical Ethics at Ministry of Health and Medical Education. After the three-stage process reported above, 134 items were included in the final code of conduct for practitioners, researchers, instructors and students of physiotherapy. The code is consistent with other organizational ethics codes currently in use worldwide. In addition, the code is respectful of the cultural context of Iranian society.

The main ethical considerations included in the code were respect for patients’ human dignity and rights(including “providing the best quality of care”, “respect for patients’ privacy and confidentiality”, “honesty and veracity”, and “compassion and empathy”), equity and justice, beneficence and non-maleficence, social responsibility of professionals, ethics in professional relations, and complying with society norms and laws. These six fields were the ethical issues experts believed to be the most important considerations for Iranian physical therapists in the context of their therapeutic practice. As seen, the influence of over two decades of bioethics education in Iran was manifested in the opinions of Iranian physiotherapy experts (11). Their concerns for human dignity, human rights, equity, beneficence, and non-maleficence were widely shared despite some regional and contextual differences. Iranian experts expressed moral concerns in common with those of other ethicists around the world, which is evidence in favor of a common morality theory (12). Beneficence, non-maleficence and justice are completely consistent with the Beauchamp and Childress principles of biomedical ethics (13).Interestingly, the experts who participated in this project insisted on human dignity versus the principle of respect for patients’ autonomy, because of the emphasis in Islamic culture on inherent human dignity. As Sachedina observed, according to the holy Quran (Q. 17:71), all humankind, whether Muslim or not, has the same dignity (14).

Healthcare professionals are responsible not only to their individual patients, but also to society (15). This is reflected in the ethical code developed in this project through consultation with and consensus among experts.

Professional relationships are an important issue in debates about ethics and professional codes. This area is more frequent and relevant in the relations of physicians and other healthcare professionals are involved in (16, 17), but of course is not limited to this profession.

Respect for and compliance with social norms and laws are the foundation of ethical behavior. Although Spencer and colleagues noted that ethics programs in healthcare organizations are different from compliance programs, they also believed that compliance with the law is the minimum level of ethics that healthcare organizations should aim to meet (18).

One of the unique characteristics of the consensus guidelines developed here is the division into parts for three different groups of contributors to good ethical practice, which is one of the potential strengths of this work. The guidelines are intended to support ethical behavior not only by physiotherapy practitioners, but also by researchers, and by teachers and students. This feature sets the guidelines we developed apart from similar codes, which deal only with treatment-related aspects of practice.

The main ethical considerations expressed by experts in the research part were general considerations in research and specific considerations in research, both divided into “before the research”, “during the research”, “after the research”. This part considered ethical aspects from the conception and design part of research to post-research efforts such as publication of the results, both prior to the beginning of the research and after the study is completed. The ethics in physiotherapy education part considered “ethics of teaching”, “academic empowerment of students”, “ethics for teachers in clinical education”, “adherence to social and cultural norms”, “ethics of co-workers, institutions and professionals”, and ”ethics for students”.

The most important limitation of this study, in terms of replicability, was the time-consuming modified Delphi method. Maintaining anonymity, comparing and reconciling the comments from all experts, and encouraging them to respond, all required considerable investments in time and management efforts.

All healthcare professionals are at risk of being in situations in which institutional constraints may conflict with the practitioner’s perception of the right thing to do (19). In addition, in rehabilitation services, practitioners may face different and more challenging ethical issues compared to other medical services, because their patients are often managed by a multidisciplinary team rather than a single doctor (20).

Professional codes of ethics are necessary for several reasons. They can clarify moral aspects and self-understanding among members of the profession, educate and offer direction in ethical decision-making and behavior, favor public responsibility, and endorse societal expectations (21).Healthcare professions in developing countries have been encouraged to develop their own codes of ethics (22). Although some other professionals in Iran have adopted codes of ethics in their fields (23) or tried to compare Iranian and international codes (24), further efforts will be crucial to develop codes of ethical conduct in all healthcare professions. It is the time to do the best efforts for Iranian professionals to become the more familiar to code of professional ethics, it could resolve their unawareness regarding codes of ethics which is a problem also exists elsewhere in the world (25).

**Conclusion**

The code of ethical conduct for physiotherapists developed with the methods reported here appears to be necessary and suitable to support patients, researchers, students and teachers in the field of physical therapy. This code, in addition to supporting best professional practice, is compliant with Iranian culture and current legislative requirements. We are therefore hopeful that this code can be implemented to appropriately support education, research and practice in physical therapy, although it is needed to say that more works need to be done to improve practical guidelines for physiotherapists to guide them in clinical cases. Although this project was a part of a national physiotherapy curriculum revision conducted by the vice chancellery for education of The Ministry of Health and Medical Education (MOHME), it is not a national code of conduct yet and it could be used as a draft to develop official national guidelines by the authorized authorities such as Medical Council of Iran, Physiotherapist Associations or Supreme Council of Medical Ethics at Ministry of Health and Medical Education.

**Acknowledgments**

This study was financially supported by the University of Social Welfare and Rehabilitation Sciences, Tehran, Iran. The authors also thank all the participants in the focus group discussion and the modified Delphi procedure, and K. Shashok (Author AID in the Eastern Mediterranean) for improving the use of English in the manuscript.

**Conflict of interests**

There are no conflicts of interest.

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