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The reception and implementation of ethical guidelines of the Swiss Academy of Medical Sciences in medical and nursing practice

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Summary

Questions under study: We conducted a survey among Swiss health care professionals on the reception and implementation of a number of selected ethical guidelines of the Swiss Academy of Medical Sciences (SAMS). The following guidelines were chosen for evaluation: "Care of patients in the end of life", "Palliative care", "Borderline questions in intensive-care medicine" and "The determination of death in the context of organ transplantation".

Methods: Anonymous questionnaires were sent to 1933 physicians (general practitioners and internists) and nurses, randomly chosen from address lists of the relevant professional associations. We conducted a statistical analysis using SPSS 16.0.

Results: The response rate was 43.1%. 16.3% of the responding physicians had never heard of the guidelines "Care of patients in the end of life", 30.5% had already heard of them, 34.1% knew some of their contents and 19.1% were familiar with the complete content of the guidelines. 60.5% of those physicians and 56.0% of those nurses who had at least heard of these guidelines utilised them in clinical practice. The guidelines "Palliative care" and "Borderline questions in intensive-care medicine" yielded similar results. By contrast, only 0.5% of responding physicians reported never having heard of the guidelines "The determination of death in the context of organ transplantation", 2.9% had already heard of them, 24.4% knew some of their contents and the vast majority of respondents (72.2%) considered themselves to be completely familiar with the guidelines.

Conclusion: Knowledge of the evaluated guidelines is fairly widespread among Swiss GPs, internists and nurses. The guidelines are utilised in clinical practice by the majority of those care providers who are aware of their existence. The guidelines "The determination of death in the context of organ transplantation", as a legally binding document, are even better known and routinely implemented in medical practice.

Key words: guidelines; medical ethics; ethical guidelines; evaluation; reception; implementation; Swiss Academy of Medical Sciences

Introduction

The development of numerous national and international ethical guidelines in the last decades suggests that considerable efforts have been dedicated to the articulation of appropriate ethical standards for health care professionals. A comprehensive literature search revealed, however, that there are only few comparable data on the reception and implementation of ethical guidelines in clinical practice [2–7].

In Switzerland, the Central Ethics Committee (CEC) of the Swiss Academy of Medical Sciences (SAMS) is charged with the development of ethical guidelines that aim to support professionals involved in health care practice or biomedical research. To draft the guidelines, the CEC appoints an interdisciplinary sub-committee including representatives of the respective target group and circulates drafts among interested groups for further improvement. The finalised guidelines are approved by the CEC and the Senate of the SAMS. To date, the guidelines of the SAMS have never

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Abbreviations

CE	Care of patients in the end of life
PC	Palliative care
BI	Borderline questions in intensive-care medicine
DO	The determination of death in the context of organ transplantation

been evaluated. In order to better understand the impact of its work the SAMS, after a competitive selection process, charged the Institute of Biomedical Ethics of the University of Zurich with the evaluation of a number of guidelines that were selected by CEC members for their diversity in terms of year of publication, legal status and professional target groups. The CEC also determined the target groups and approximate sample sizes.

The following guidelines were chosen: "Care of patients in the end of life" (published 2004), "Palliative Care" (published 2006), "Borderline questions in intensive-care medicine" (published 1999), "The determination of death in the context of organ transplantation" (published 2005)[1]. Their reception and implementation was explored by means of a questionnaire survey that explored five main questions:

- Do physicians and nurses perceive themselves as familiar with the selected guidelines? To what degree?
- Do physicians and nurses report utilising the guidelines in their daily practice? In what way?
- Do study participants understand the legal status of the respective guidelines?
- What sources do physicians and nurses use for information about professional guidelines?
- What do physicians and nurses think of the guidelines' relevance for clinical practice?

Our data can be used to improve strategies increasing the level of familiarity with ethical guidelines in medical practice and as a critical check on their perceived utility.

Methods

The methodological approach consisted of a quantitative survey and was performed using two different questionnaires, which were developed by an interdisciplinary and multilingual project team[2]. The study was undertaken between November 2007 and April 2009, including the conception and design of the questionnaires, data collection and data evaluation. The two questionnaires that were produced contained the same set of questions (including personal data such as age, sex, professional activity and experience) but referred to different guidelines and aimed at different target groups. Questionnaire 1 ("Internal and General Medicine") covered the two guidelines "Care of patients in the end of life" and "Palliative care" and addressed general practitioners, internists and nurses. Questionnaire 2 ("Intensive care medicine") covered the three guidelines "Care of patients in the end of life", "Borderline questions in intensive-care medicine" and "The determination of death in the context of organ transplantation" and addressed intensive care physicians and intensive care nurses. Questionnaires were anonymous and sent to health care professionals working in Switzerland including German, French and Italian language regions (70.8% German speaking, 19.2% French speaking and 10.0% Italian speaking). Questionnaires were sent in German, French and Italian, respectively.

Questionnaire 1 was sent to 500 GPs, 426 internists and 295 nurses, whereas questionnaire 2 was sent to 434 intensive care physicians and 278 intensive care nurses. Three different datasets were created: *Dataset 1* resulted from questionnaire 1 and included answers from GPs, internists and nurses; *dataset 2* resulted from questionnaire 2 and included answers from intensive care physicians and intensive care nurses; *dataset 3* resulted from both questionnaires including the answers of the whole sample but only with regard to the only guidelines that were addressed by both questionnaires ("Care of patients in the end of life"). Therefore, results concerning these guidelines included answers from all respondents. The total sample consisted of 1933 health care professionals.

Before sending the questionnaires to the described target groups, we tested them by performing a pilot phase with seven physicians and eleven nurses. They were asked if questions and response options were clearly formulated and how much time was needed to complete the questionnaire. As a consequence, some wording was adapted. The questionnaires were also presented to the Biostatistics Unit of the Institute of Social and Preventive Medicine of the University of Zurich, which checked the questionnaires for potential methodological pitfalls. After some minor changes we decided to send the questionnaires for the first time at the end of June 2008, just before the summer holidays. At the end of July 2008 the questionnaires were sent for a second time as a reminder to those who had not yet replied. The Swiss Academy of Medical Sciences was the sender of the letters, which included cover letter, questionnaire and stamped envelope to facilitate responses; response address was the Institute of Biomedical Ethics.

All recipients were randomly chosen from address lists of relevant professional associations. The relevant Swiss professional association for physicians is the FMH (Swiss Medical Association)[3] which kindly provided the needed addresses of GPs, internists and intensive care physicians. The relevant Swiss professional association for nurses is the SBK (Schweizer Berufsverband für Pflegefachfrauen und Pflegefachmänner)[4]. The SBK kindly agreed to send the questionnaires themselves on our behalf to avoid violating data protection rules. For intensive care nurses, we approached the IGIP (Schweizerische Interessengemeinschaft für Intensivpflege), which completed the needed number of addresses available[5].

Data analysis was performed using SPSS 16.0 for Windows. We conducted a statistical analysis, including frequencies, cross tabulations, nonparametric correlations and Pearson χ^2 test to assess differences in responses between subgroups. All following percentage values refer to valid percentages and all declared counts in tables are counts excluding missing values.

1 All guidelines mentioned can be downloaded from the website of the Swiss Academy of Medical Sciences: www.samw.ch/en/Ethics/Guidelines/Currently-valid-guidelines.html. (accessed 29 January 2010).

2 Disciplines: Medicine (incl. quantitative methods), Philosophy, Law; Languages: German, French, Italian and English.

3 www.fmh.ch.

4 www.sbk-asi.ch.

5 The SBK could only provide a mixed sample, which was not differentiated according to nursing specialty. This is why we approached IGIP for the sample of intensive care nurses.

Results

The response rate was 43.1% (834 respondents out of 1933). Response rates concerning diverse professional groups and language regions were not significantly different. Respondents were aged between 20 and 72 years, the average age being 46 years and the median being 47 years. 71.2% of physicians were male, 28.8% were female, whereas only 12.4% of nurses were male and 86.6% female. The number of years of professional experience ranged between 0 and 44, with an average of 17 years, and a median of 16 years. 16.1% of respondents were internists, 23.2% general practitioners, 22.3% intensive care physicians, 2.0% anaesthetists, 18.8% intensive care nurses, 1.0% anaesthetic nurses, 0.2% surgery nurses, 5.2% nurses with any diploma, 7.2% nurses without diploma, 4.0% other professions. 20.7% of respondents worked in a university hospital, 21.2% in cantonal hospitals, 15.4% in regional hospitals, 24.4% in private practices, 2.5% in ambulatory nursing care (Spitex), 3.5% in nursing homes, 5.3% in private hospitals and 7.2% in other institutions.

Knowledge. 16.3% (n = 89) of physicians and 35.2% (n = 95) of nurses had never heard of the guidelines "Care of patients in the end of life"[6], 30.5% (n = 166) of physicians and 32.9% (n = 89) had already heard of them, 34.1% (n = 186) of physicians and 18.9% (n = 51) of nurses knew some contents and 19.1% (n = 104) of physicians and 13.0% (n = 35) of nurses were familiar with the complete content of the guidelines (table 1).

20.3% (n = 68) of physicians and 24.4% (n = 32) of nurses had never heard of the guidelines "Palliative Care"[7], 40.3% (n = 135) of physicians and 31.3% (n = 41) had already heard of them, 30.4% (n = 102) of physicians and 28.2% (n = 37) of nurses knew some contents and 9.0% (n = 30) of physicians and 16.0% (n = 21) of nurses were familiar with the complete content of the guidelines. 15.7% (n = 33) of physicians and 28.3% (n = 41) of nurses had never heard of the guidelines "Borderline questions in intensive-care medicine"[8], 24.3% (n = 51) of physicians and 30.3% (n = 44) of nurses had already heard of them, 34.3% (n = 72) of physicians and 29.7% (n = 43) of nurses knew some contents and 25.7% (n = 54) of physicians and 11.7% (n = 17) of nurses considered themselves familiar with the complete content of the guidelines. 0.5% (n = 1) of physicians and 6.8% (n = 10) of nurses had never heard of the guidelines "Determination of death in the context of organ transplantation"[9], 2.9% (n = 6) of physicians and 14.4% (n = 21) of nurses had already heard of them, 24.4% (n = 51) of physicians and 41.8% (n = 61) of nurses knew some contents and 72.2% (n = 151) of physicians and 37.0% (n = 54) of nurses were familiar with the complete content of the guidelines (table 2).

Statistical analysis showed a significant difference between professions (physicians, nurses) and knowledge of the guidelines "CE", with physicians claiming more familiarity with the guidelines (p = 0.000). Comparisons between university, cantonal and regional hospitals revealed no significant differences with regard to the knowledge of the guidelines "CE". There were also no significant differences in knowledge of these guidelines regarding the numbers of intensive care units, sex of the respondents and language area.

Furthermore, statistical analysis revealed significant, positive associations between the age of respondents and familiarity with each of the three guidelines "CE", "PC" and "BI" ("CE": p = 0.000, Kendall's τ b = 0.199; "PC": p = 0.000, Kendall's τ b = 0.142; "BI": p = 0.000, Kendall's τ b = 0.184). Significant, positive associations could also be found between the number of years of profes-

Table 1

Knowledge of the guidelines "Care of patients in the end of life".

		Physicians		Nurses	
	Dataset 3	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
Knowledge of the guidelines "Care of patients in the end of life"	I have never heard of the guidelines	89	16.3%	95	35.2%
	I have already heard of the guidelines	166	30.5%	89	32.9%
	I know some contents of the guidelines	186	34.1%	51	18.9%
	I am familiar with the complete content of the guidelines	104	19.1%	35	13.0%

Table 2

Knowledge of the guidelines "Determination of death in the context of organ transplantation".

		Physicians		Nurses	
	Dataset 2	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
Knowledge of the guidelines "Determination of death in the context of organ transplantation"	I have never heard of the guidelines	1	.5%	10	6.8%
	I have already heard of the guidelines	6	2.9%	21	14.4%
	I know some contents of the guidelines	51	24.4%	61	41.8%
	I am familiar with the complete content of the guidelines	151	72.2%	54	37.0%

sional experience and familiarity with the same three guidelines "CE", "PC" and "BI" ("CE": p = 0.000, Kendall's τ b = 0.186; "PC": p = 0.000, Kendall's τ b = 0.150; "BI": p = 0.001, Kendall's τ b = 0.142). There were no associations at all regarding the guidelines "DO".

Utilisation in practice. 39.5% (n = 173) of physicians who had at least heard of the guidelines "CE" had never utilised them in medical practice. Similarly, 44.0% (n = 74) of nurses who had already heard of the guidelines had never utilised them. Accordingly, 60.5% (n = 265) of physicians had applied the guidelines at least once, whereas this was the case for 56.0% (n = 94) of nurses (table 3).

The results of the other three guidelines are very similar and again include only respondents claiming at least some knowledge of the guidelines. 50.8% (n = 129) of physicians and 43.3% (n = 42) of nurses had never utilised the guidelines "PC". Accordingly, 49.2% (n = 125) of physicians and 56.7% (n = 55) of nurses had applied them at least once. 30.2% (n = 52) of physicians and 39.6% (n = 40) of nurses had never utilised the guidelines "BI", accordingly 69.8% (n = 120) of physicians and 60.4% (n = 61) of nurses had never utilised them. By contrast, the results for the guidelines "DO" were the following: Only 12.2% of physicians and 31.3% of nurses had never utilised them and the large majority of 87.8% of physicians and 68.7% of nurses had utilised them at least once (table 4). Additionally, we observed significant positive associations between different degrees of knowledge and utilisation of all four guidelines "CE", "PC", "BI", and "DO" ("CE": p = 0.000, Kendall's τ b = 0.644; "PC": p = 0.000, Kendall's τ b = 0.603; "BI": p = 0.000, Kendall's τ b = 0.697; "DO": p = 0.000, Kendall's τ b = 0.598).

Further questions concerned more detailed information on the utilisation of the guidelines in clinical practice. Analysis revealed that the guidelines "CE" had been utilised mostly as an orientation and aid for decision-making in medical practice, as legitimation for controversial decisions and to further the development of the individual moral position (table 5). Nearly the same findings resulted for the three other guidelines "PC", "BI" and "DO".

Regarding the question as to which functions the guidelines should have in general, we received the following answers (multiple answers were possible): 87.5% (n = 477) of physicians and 90.4% (n = 246) of nurses said that the guidelines should serve as an orientation and aid for decision-making, 65.7% (n = 358) of physicians and 58.5% (n = 159) of nurses stated that the guidelines should provide legitimation for controversial decisions, 43.9% (n = 239) of physicians and 52.9% (n = 144) of nurses held that the guidelines should further the development of their individual moral positions. 2.6% (n = 14) of physicians and 3.3% (n = 9) of nurses did not know and 5.7% (n = 31) of physicians and 6.2% (n = 17) of nurses were in favour of other (mostly unspecified) functions.

Estimated legal force. Apart from the guidelines "DO", which are an annex to the Federal Order on Transplantation (SR 810.211), the other guidelines are legally not fully binding but are part of professional law (e.g. as appendices to the Swiss Medical Code [FMH-Standesordnung]). We were interested in finding out how physicians and nurses judge the guidelines' legal force. For the

Table 3

Utilisation of the guidelines "Care of patients in the end of life".

		Physicians		Nurses	
	Dataset 3	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
Utilisation of the guidelines "Care of patients in the end of life"	No, I have never utilised these guidelines	173	39.5%	74	44.0%
	Yes, I have already utilised these guidelines	265	60.5%	94	56.0%

Table 4

Utilisation of the guidelines "Determination of death in the context of organ transplantation".

		Physicians		Nurses	
	Dataset 2	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
Utilisation of the guidelines "Determination of death in the context of organ transplantation"	No, I have never utilised these guidelines	25	12.2%	41	31.3%
	Yes, I have already utilised these guidelines	180	87.8%	90	68.7%

Table 5

More detailed information on the utilisation of the guidelines "Care of patients in the end of life".

	Multiple answers were possible	Physicians		Nurses	
	Dataset 3	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
More detailed utilisation of the guidelines "Care of patients in the end of life"	The guidelines serve as orientation and aid for decision-making	249	92.2%	80	83.3%
	The guidelines provide legitimation for controversial decisions	217	80.4%	72	75.0%
	The guidelines further the development of individual moral position	215	79.6%	77	80.2
	Other	16	5.9%	10	10.4

guidelines "CE" the following results were obtained (multiple answers were possible): a. the guidelines are legally binding (physicians: 9.4% [n = 52]; nurses: 18.6% [n = 52]), b. not legally binding but binding due to professional law for all FMH members (physicians: 24.5% [n = 136]; nurses: 11.8% [n = 33]), c. not legally binding but of interest in lawsuits (physicians: 39.8% [n = 221]; nurses: 25.1% [n = 70]), d. legally non-binding with no other relevance (physicians: 11.7% [n = 65]; nurses: 7.5% [n = 21]), e. I do not know (physicians: 13.9% [n = 77]; nurses: 26.9% [n = 75]), f. other (physicians: 2.9% [n = 16]; nurses: 3.6% [n = 10]). Similar results were obtained for the guidelines "PC": a. the guidelines are legally binding (physicians: 6.1% [n = 21]; nurses: 27.5% [n = 36]), b. not legally binding but binding due to professional law for all FMH members (physicians: 22.7% [n = 78]; nurses: 11.5% [n = 15]), c. not legally binding but of interest in lawsuits (physicians: 39.8% [n = 137]; nurses: 28.2% [n = 37]), d. legally non-binding with no other relevance (physicians: 13.4% [n = 46]; nurses: 3.1% [n = 4]), e. I do not know (physicians: 16.9% [n = 58]; nurses: 25.2% [n = 33]), f. other (physicians: 4.4% [n = 15]; nurses: 4.6% [n = 6]). Furthermore, the results of the guidelines "BI" were also similar to the two previous guidelines: a. the guidelines are legally binding (physicians: 11.4% [n = 24]; nurses: 18.9% [n = 28]), b. not legally binding but binding due to professional law for all FMH members (physicians: 25.1% [n = 53]; nurses: 17.6% [n = 26]), c. not legally binding but of interest in lawsuits (physicians: 40.8% [n = 86]; nurses: 27.7% [n = 41]), d. legally non-binding with no other relevance (physicians: 9.0% [n = 19]; nurses: 10.1% [n = 15]), e. I do not know (physicians: 14.7% [n = 31]; nurses: 27.0% [n = 40]), f. other (physicians: 0.5% [n = 1]; nurses: 2.0% [n = 3]). On the other hand, the results of the guidelines "DO" are quite different to those of "CE", "PC" and "BI" (table 6).

Information sources. Which information sources for the guidelines did respondents use? The majority of physicians gathered information about the guidelines "CE" using the journal "Schweizerische Ärztezeitung"; the majority of nurses used the journal "Krankenpflege" (table 7). We found comparable results for the three other guidelines "BC", "BI", "DO".

In addition, all study participants were asked which information sources they would prefer for future information about the guidelines. Again, physicians were mostly in favour of the journal "Schweizerische Ärztezeitung" and a substantial number of nurses preferred the journal "Krankenpflege" (table 8). Additionally, more than 50% of physicians and nurses would appreciate receiving information within their residency training

Table 6

Estimated legal force of the guidelines "Determination of death in the context of organ transplantation".

	Multiple answers were possible	Physicians		Nurses	
	Dataset 2	**Count**	**Column Total N %**	**Count**	**Column Total N %**
Estimated legal force of the guidelines "Determination of death in the context of organ transplantation"	I consider these guidelines as legally binding	144	68.2%	78	52.7%
	I consider these guidelines as not legally binding but I account it binding due to professional law for FMH members	30	14.2%	15	10.1%
	I consider these guidelines as not legally binding but I assume it being of interest in lawsuits	41	19.4%	34	23.0%
	I consider these guidelines as legally non-binding and do not assign them any relevant implications	2	.9%	6	4.1%
	I do not know	2	.9%	24	16.2%
	Other	1	.5%	2	1.4%

Table 7

Information sources for the guidelines "Care of patients in the end of life".

	Multiple answers were possible	Physicians		Nurses	
	Dataset 3	**Count**	**Column Total N %**	**Count**	**Column Total N %**
Information sources for the guidelines "Care of patients in the end of life"	Medical/Nursing School	31	5.6%	28	10.0%
	Residency	69	12.4%	43	15.4%
	Continuing Medical Education	120	21.6%	31	11.1%
	Advise of a colleague	59	10.6%	34	12.2%
	Bulletin or website of the SAMS	84	15.1%	31	11.1%
	"Schweizerische Ärztezeitung"	286	51.5%	4	1.4%
	"Krankenpflege"	2	.4%	65	23.3%
	Daily press	13	2.3%	12	4.3%
	Scientific journals	25	4.5%	31	11.1%
	Other sources	20	3.6%	14	5.0%

Table 8

Preferred future information sources for the guidelines.

	Multiple answers were possible	Physicians		Nurses	
	Dataset 3	**Count**	**Column Total N %**	**Count**	**Column Total N %**
Preferred future information sources for the guidelines	Residency/CME	302	54.4%	188	67.4%
	Advise of a colleague	88	15.9%	75	26.9%
	Bulletin or website of the SAMS	131	23.6%	79	28.3%
	"Schweizerische Ärztezeitung"	372	67.0%	13	4.7%
	"Krankenpflege"	9	1.6%	171	61.3%
	Daily press	16	2.9%	54	19.4%
	Scientific journals	83	15.0%	88	31.5%
	Other sources	48	8.6%	31	11.1%

Table 9

Attitudes towards physician-assisted suicide.

		Physicians		Nurses	
	Dataset 3	**Count**	**Column Valid N %**	**Count**	**Column Valid N %**
Personal attitude on physician-assisted suicide (PAS)	PAS should be morally condemned in any case	46	8.4%	25	9.2%
	PAS should not be morally condemned but is a non-medical intervention and must be limited to terminally ill patients	311	56.8%	111	40.8%
	PAS should not be morally condemned but is a non-medical intervention and has not to be limited to terminally ill patients	83	15.2%	50	18.4%
	PAS is a legitimate part of medical practice. Therefore, physicians should assume their responsibility in this field and establish appropriate rules in their future professional guidelines	71	13.0%	58	21.3%
	I have an individual response to this question	36	6.6%	28	10.3%

and Continuing Medical Education programmes.

Relevance for medical practice. Further questions were related to what physicians and nurses think of the guidelines' relevance for their medical practice. Study participants were asked to answer the following questions:

1. How important do you consider the guidelines for your daily practice? 29.4% (n = 157) of physicians and 25.5% (n = 68) of nurses stated that the guidelines were important for them and that they invested time in their study and critical reflection; for the majority of 53.4% (n = 285) of physicians and 53.6% (n = 143) of nurses the guidelines were of importance but they had little or no time to devote to them, even if they would like to; 4.3% (n = 23) of physicians and 2.6% (n = 7) of nurses think that the guidelines are not important and do not need to be dealt with, and 12.9% (n = 69) of physicians and 18.3% of nurses chose the category "Other".

2. Whom are the guidelines aimed at? 72.7% (n = 386) of physicians and 72.0% (n = 193) of nurses thought that the guidelines were aimed equally at physicians and nurses, which is in accordance with the intention of the SAMS. 1.9% (n = 10) of physicians and 1.5% (n = 4) of nurses answered that the guidelines were only aimed at physicians; 12.2% (n = 65) of physicians and 8.6% (n = 23) of nurses stated that they were primarily aimed at physicians, while13.2% (n = 70) of physicians and 17.9% (n = 48) of nurses did not know.

3. Do you agree with the contents of the guidelines "CE", "PC", "BI" and "DO"? 37.9% (n = 140) of physicians and 35.1% (n = 47) of nurses agreed completely with the guidelines "CE"; 32.0% (n = 118) of physicians and 24.6% (n = 33) of nurses agreed partially; 0.3% (n = 1) of physicians and 1.5% (n = 2) of nurses did not agree; 27.9% (n = 103) of physicians and 38.1% (n = 51) of nurses did not know and 1.9% (n = 7) of physicians and 0.7% (n = 1) had revision suggestions for the guidelines "CE". The results of the guidelines "PC" and "BI" regarding this question are very similar to those of the guideline "CE". Again, the results of "DO" differ: More than half of the respondents, namely 72.6% (n = 143) of physicians and 60.2% (n = 65) of nurses agreed completely with the guidelines "DO"; 18.8% (n = 37) of physicians and 42.1% (n = 26) of nurses agreed partially; 0.0% (n = 0) of physicians and 0.9% (n = 1) of nurses did not agree; 5.6% (n = 11) of physicians and 13.0% (n = 14) of nurses did not know and 3.0% (n = 6) of physicians and 1.9% (n = 6) of nurses had revision suggestions for the guidelines "DO".

The last question of the survey explored the respondents' personal attitude towards physician-assisted suicide (table 9), and its presumed rela-

tionship to the position reflected by the respective SAMS guidelines. 32.3% (n = 169) of physicians and 17.6% (n = 45) of nurses thought that their personal attitude was the same as the one the SAMS states in the guideline "CE"; 11.3% (n = 59) of physicians and 8.2% (n = 21) of nurses thought that they were not the same and 56.5% (n = 296) and 74.1% (n = 189) did not know if they were the same. The position of the guidelines was not stated as such in the questionnaire, in order to avoid biasing participants with regard to this option. 69.6% (n = 39) of physicians and 66.7% (n = 6) of nurses who claimed to know the complete content of the guidelines "CE" and whose attitude regarding assisted suicide was the same as the attitude expressed by the SAMS, correctly identified their position as being in accordance with the position of the SAMS. 14.3% (n = 8) of physicians and 0.0% of nurses incorrectly considered themselves to be in disaccord with the SAMS position, and 16.1% (n = 9) and 33.3% (n = 3) did not know. On the other hand, 47.7% (n = 21) of physicians and 60.0% (n = 15) of nurses who claimed to know the complete content of the guidelines "CE" and whose attitude regarding assisted suicide was *not* the same as the attitude expressed by the SAMS, wrongly thought that their attitude was in accordance with the SAMS position; 36.4% (n = 16) of physicians and 28.0% (n = 7) of nurses correctly identified the disaccord, and 15.9% (n = 7) of physicians and 12.0% (n = 3) of nurses did not know.

Discussion

The survey does not claim to examine the effective knowledge and implementation of the SAMS guidelines but reflects how physicians and nurses perceive themselves in this regard. A substantial majority of about 80% of all respondents claimed to have heard of the guidelines of the Swiss Academy of Medical Sciences at least once, including physicians who know some contents or are even familiar with the complete guidelines. About 20% of respondents had never heard of them. These findings are better than expected by some members of the CEC but worse than they could or should be, given the fact that the response option "I have already heard of the guidelines" remains vague in its informative value. Furthermore, a certain bias cannot be excluded because of the assumption that those physicians who had at least some knowledge of the guidelines or who had already heard of them would be more motivated to respond to the questionnaire.

In general, physicians seem to have more knowledge about the guidelines than nurses. One explanation for this finding consists in the fact that questionnaires were sent in a more targeted way to physician subgroups (e.g. internists, GPs, intensive care physicians) than to nurses. In addition, nurses are usually charged to a lesser degree with making medical decisions and thus they may pay less attention to the guidelines.

The positive, significant associations between age and knowledge of each of the guidelines "CE", "PC" and "BI" as well as that between years of professional experience and knowledge of each of the same three guidelines suggest that young physicians and nurses are in need of a special focus regarding the dissemination of the guidelines. More than 50% of those who had at least heard of the guidelines utilise them as orientation and decision aids, as legitimation for controversial decisions and as support for the own moral beliefs. The better the knowledge of the guidelines is the more often they are utilised. On the other hand, the level of knowledge has no impact on the form of utilisation.

Our findings suggest a relatively high uncertainty regarding the legal status of the guidelines. Physicians identify the correct legal status more frequently than nurses, but surprisingly, only some 25% of physicians know that the guidelines actually do have some binding force due to professional law.

The guidelines "Determination of death in the context of organ transplantation" differ from the other three guidelines regarding knowledge, frequency of utilisation and agreement with the guidelines contents. Our findings showing the guidelines "DO" to be better known, more frequently utilised and more widely accepted with regard to contents are likely to be due to the legal force of the guidelines "DO", which are legally binding as appendix 1 of the Transplantation order (SR 810.211).

The most frequently used information source of all guidelines is the *Schweizerische Ärztezeitung* for physicians and the *Krankenpflege* for nurses. Continuing medical education has turned out to be another suitable vessel. This might be a suitable vessel particularly to address young physicians and to communicate the legal status and the concrete utility and relevance of the guidelines for clinical practice, given that physicians as well as nurses would in fact like to concern themselves with the guidelines. Dealing with ethical guidelines could be included in the education of advanced practice nurses, in the context of their proposed introduction in Switzerland and elsewhere [1]. For this purpose, contact persons for physicians and nurses who could provide information directly in hospitals might facilitate the implementation of the guidelines.

Furthermore, our results suggest that the legal possibility of physician-assisted suicide (PAS) is accepted by a large number of health care professionals, as long as it proceeds within well-defined

rules and does not become a medical standard patients could claim. If respondents are in line with the attitude of the SAMS concerning PAS, they tend to agree more fully with the content of the guidelines "CE" but this congruence has no impact neither on the importance and the frequency of utilisation of the guidelines nor on their utilisation as legitimacy for controversial decisions.

An extensive literature search in relevant databases has shown that there are very few similar quantitative studies including questions on the reception and implementation of ethical guidelines to which our results could be compared. A German survey [2] on the level of familiarity of professional ethical guidelines among German nurses revealed that only 25% of respondents knew their professional ethical guidelines, but they also utilised them mainly as decision and orientation aids in ethical conflict situations just as our findings suggest. Similarly, the findings of a Canadian survey [3] on ethics in medical practice among physicians stated that only one third of the 300 responding physicians had ever read the CMA "Code of Ethics". A European study on the value of Nurses' Codes [4] even showed that in all investigated countries except Italy, nurses claimed they were unaware of their codes and did not use them in practice. On the contrary, an Australian evaluation [5] of the ethical practice guidelines developed for use in Central Sydney Area Mental Health Services among nurses showed that almost all (96%) of the respondents (121) were aware of their guidelines; 80% of respondents stated having read them. In addition, a Pakistani survey [6] on the knowledge of the Code of Ethics formulated by the Pakistan Medical and Dental Council yielded the following results: 51% of the respondent physicians of surgical wards have heard about the Code of Ethics; 44% have read it partially or fully and only 7% had no knowledge at all about it. However, the interpretation of these results is limited given the small number of respondents (101). In the broader field of medical ethics and human rights, the UNESCO has evaluated not the reception but the implementation of its *Universal Declaration on the Human Genome and Human Rights* using questionnaires that were sent to all concerned actors such as member states, intergovernmental organizations, national ethics committees, universities etc. The evaluation analysis claimed a significant impact of the Declaration and its dissemination on the principal stakeholders working in the field of the human genome [7]. In Switzerland similar efforts have been made investigating the legal implementation of the guidelines of the SAMS in Switzerland [8]. This study showed that some cantonal constitutions refer in their acts to the SAMS guidelines. There are also other national initiatives exploring strategies to improve the implementation of ethical guidelines. The *Canadian Interagency Advisory Panel on Research Ethics* has launched several initiatives that are aimed at facilitating the nationwide implementation of the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* [9]. Similarly, the findings of this study can be used to optimize the strategies for increasing the level of Swiss physicians' and nurses' familiarity of the SAMS guidelines.

Given that the normative activities of many professional guidelines appear to have intensified considerably over the last years in Switzerland and elsewhere, it seems reasonable to put effort into feedback on how the guidelines are being received, if their legal status is correctly understood and how they are used in daily practice. The findings of this study offer a contribution in this regard.

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