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Knowledge and attitudes of medical and nursing practitioners regarding non-beneficial futile care in the intensive care units of Trinidad and Tobago

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Abstract

Objective: To determine the knowledge and attitudes of healthcare personnel regarding the provision of non-beneficial futile care in the intensive care units at the major public hospitals in Trinidad and Tobago.

Method: Prospective data collection was done using a questionnaire administered to the medical and nursing staff of the intensive care units. The questionnaire was designed to capture the opinions regarding the futile care offered to terminally ill patients at the intensive care units. The responses were based on a five-point Likert scale. The influence of factors such as age, gender, duration of work experience, religious belief, ethnicity, occupational category and educational status on the responses were analysed.

Results: A total of 274 completed responses (86% response rate) were obtained from doctors and nurses. The frequency with which the respondents encountered ethical or legal problems in the intensive care unit varied widely from 'daily' to 'yearly'. The majority felt that knowledge of ethics is important, and only 32% knew the legal issues pertaining to their work. Eighty percent of doctors and nurses had no knowledge of an existing Hospital Ethics Committee and its role in ethical dilemmas. Although 62% said their decisions regarding futile care will be influenced by their scientific knowledge, only 32% agreed to withdraw care. Eighty percent said that the government should pass appropriate laws regarding withdrawal of futile care.

Conclusions: Most healthcare providers in intensive care unit are not knowledgeable in the ethical and legal issues of non-beneficial futile care. There is a need to devise means to bring awareness and educate intensive care unit healthcare providers in this subject.

Keywords

Medical futility, ICU care, medical professionals, nursing professionals, Caribbean

Introduction

As medical knowledge and technology have advanced, options for providing healthcare including life-support during end-of-life have also increased in the past few decades. This has resulted in a socio-cultural change wherein death has become a 'process' rather than an 'event'.[1]

Mortality in the intensive care units (ICU) is not uncommon, due to the fact that many patients are admitted with moribund illnesses and multiple organ failures; patients do die despite the best efforts of the healthcare providers. Since its inception, the major goal of intensive care has been to provide support for failing organs in a patient who is deemed to be recoverable from an illness.[2] However, when patients continue to deteriorate in their health status without any response to the pharmacological and technological intervention, there comes a point when a decision needs to be reached by the healthcare worker, alongside the patients' family, to forgo further treatment, which is clearly seen to be non-beneficial at that point.[3] In other situations, patients who suffer from incurable or non-recoverable illnesses such as terminal malignancies also get admitted into ICUs, and the pattern of

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end-of-life care is not standardised even in the developed world.[4]

In many countries, especially in the Caribbean, the so-called medically futile patients continue to receive full support and ICU care due to many reasons.[1] Many a times, patients die in the ICU under undesirable and undignified situations. The Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT) trial in the USA showed that people did not want to die in a medical institution and the relatives faced immense financial hardships.[5]

ICU is a high resource area and consumes a vast amount of budgetary allocations of a hospital.[6] Many a times, this type of non-beneficial care is continued in the ICU, when the cost is borne by the family of the patients out of their pockets, although ethically this is debatable. Also, if the cost of ICU care is paid by a medical insurance company, it may function as a gatekeeper to restrict the unnecessary wastage of resources in futile situations and non-recoverable patients.

The situation is different when the cost of ICU care is borne by the exchequer, such as in Trinidad & Tobago, where the economic costs of providing healthcare is enormous and is a strain on the healthcare system. Because this cost is unknown to the users of the free public healthcare system, they utilise the ICU services under circumstances when they might not have done, if they would have to pay directly from their pockets.[7]

When healthcare workers have to make decisions regarding such futile treatment, the options present complex ethical dilemmas. These include decisions about the appropriateness of treatment, allowing a patient's life to end by withholding/withdrawing interventions deemed to be non-beneficial for the overall patient improvement.[8–10] These decisions are difficult for healthcare workers and relatives alike; the former being unable to decide when to consider futility in the dying patients and the latter being left with the complex situation of hopelessness interlaced with how to come to terms with the fact that the goal of treatment has changed from 'cure' to 'comfort' for their loved ones. There is limited data about the knowledge of healthcare workers' decision-making processes regarding futile ICU care from the Caribbean. With this background, the present study aimed to assess the knowledge and attitudes of healthcare workers in the ICUs at the major public Hospitals in Trinidad and Tobago.

Methods

Approval was obtained from the University Ethics Committee, Faculty of Medical Sciences, The University of the West Indies, St. Augustine, Trinidad to conduct the study. Informed Consent was obtained from the respondents. No personal information such as name, identity number, address, etc., was required from the respondent.

A '27 item', self-administered, structured questionnaire was designed de novo, and was distributed to all the staff members of the ICUs in the public hospitals of Trinidad and Tobago. A link person in each unit distributed the questionnaires to medical and nursing staff of all grades. The questions were pertinent to the aspects of a terminally ill patient's end-of-life care in ICU in the context of continuing non-beneficial treatment.

All doctors (consultants, registrars, house officers) and nurses (sisters-in-charge, staff nurses, nursing assistants) involved in care of the patient in ICUs were included and persons unwilling to answer the questionnaire were excluded.

Demographic data required by the questionnaire included age, gender, duration of work experience, religious belief, ethnicity, occupation, and educational status. Other questions included information regarding futile care, withdrawing non-beneficial therapies, ethical and legal issues, and Hospital Ethics Committees.

The responses were based on the Likert scale ranging from 1 to 5 (1 – strongly disagree, 2 – disagree, 3 – not sure, 4 – agree and 5 – strongly agree). Descriptive analysis and inferential tests including Phi/Cramer's analysis were performed; a $p < 0.05$ was considered as statistically significant. Statistical Package of Social Sciences (SPSS) – version 16 was used for statistical analyses.

Results

A total of 320 questionnaires were distributed to medical and nursing staff of all grades involved in the care of ICU patients in six major public hospitals of Trinidad and Tobago, of which 274 completed questionnaires were returned, the response rate being 85.6%.

About 57.7% completed questionnaires were returned from nursing staff and 42.3% were from doctors. Table 1 shows the distribution of the respondents according to their seniority. Females contributed to 72.3% of the respondents. The predominant age group of the respondents was in the range of 31–40 years (42%). Around 37% of the respondents had less than five years of work experience, and 0.8% had above 25 years work experience.

Among the respondents, 21.5% were Roman Catholics, 34.7% belonged to other Christian denominations, 20.1% were Hindus, 5.1% Muslims and 18.6% responded as belonging to 'other religions'.

About 33.2% of the respondents were of Indo-Trinidadian ethnicity, 32.8% Afro-Trinidadians and

the remaining one-third belonged to other ethnicities including Chinese, Hispanics, Filipinos, etc.

When asked how often they encounter an ethical or legal problem, 30.3% said they encounter it once weekly, 22.6% said monthly, 20.1% daily, and 17.2% yearly during the course of their work. Strangely, 9.9% said they never encountered an ethical or legal problem in their work.

Of all respondents, 84.3% agreed that 'knowledge of ethics is very important at work', and only two respondents, from the nursing category, felt it is not at all important. Similarly, 41.6% said they have moderate knowledge of laws pertaining to their work and 2.2% agreed that they do not have any knowledge of law at all.

When asked about the existence of an Ethics Committee in the hospital they work, 51% responded that they were 'not sure', 30% said there was no Committee and 19.3% responded that there was an Ethics Committee present in their hospital. When asked 'If there is an Ethics Committee in your hospital, does it assist in end-of-life issues?', 77.4% were unsure, 5.1% felt that Ethics Committee in their hospital did assist in end-of-life care matters, while 11% said the Committee will not assist. Among doctors, 44% were unsure of the existence of the Ethics Committee, while among nurses 56% were unaware of the fact.

Tables 2 and 3 show the overall responses for different questions pertaining to the issues of futile care in the ICU by all the ICU healthcare providers.

Tables 4 and 5 show the comparison of the responses between doctors and nurses. There were statistically significant differences in some of the views expressed by doctors when compared with nurses.

There were wide variations in the responses to the questions regarding influence of their religion in their workplace. Sixty percent of Hindus and 49% of other Christian denominations agreed that they openly and

Table 1. Seniority level in each category.

Category	Seniority level	Percent
Nurses	Staff nurse	42.3
	Nursing assistant	11.4
	Sister-in-charge	4.0
Doctors	House officer	24.8
	Registrar	10.2
	Consultant physician	7.3

Table 2. Responses from ICU healthcare personnel regarding futile care.

Issues regarding futile care in ICU	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
'Once considered 'futile', patients should not receive any ICU treatment'	29 (10.6)	68 (24.8)	51 (18.6)	76 (27.7)	50 (18.2)
Partial withdrawal of therapy is appropriate, but not complete withdrawal	27 (9.9)	64 (23.4)	51 (18.6)	102 (37.2)	30 (10.9)
I do not want to withdraw ICU therapy; rather I will not escalate therapy	19 (6.9)	55 (20.1)	61 (22.3)	107 (39.1)	32 (11.7)
In a futile patient, Do-Not-Resuscitate (DNR) decisions must be taken only after agreement of patient/relative	18 (6.6)	47 (17.2)	32 (11.7)	113 (41.2)	64 (23.4)
DNR decisions should be based primarily on the expected quality of life after resuscitation	12 (4.4)	45 (16.4)	41 (15.0)	110 (40.1)	66 (24.1)
Futile patients in ICU should be given enough 'sedation' irrespective of their physiological status	21 (7.7)	59 (21.5)	65 (23.7)	96 (35.0)	33 (12.0)
It is possible to legally defend withdrawal of ICU therapy in a futile patient, once the decision is taken appropriately	6 (2.2)	21 (7.7)	73 (26.6)	128 (46.7)	46 (16.8)
Withdrawal of futile ICU care is more commonly practiced if the patient/family have to pay for ICU care	11 (4.0)	42 (15.3)	92 (33.6)	95 (34.7)	34 (12.4)
In my opinion, most DNR decisions taken in my ICU are appropriate'	6 (22)	16 (5.8)	99 (36.1)	99 (36.1)	54 (19.7)

Table 3. Responses from ICU healthcare personnel regarding futile ICU care.

Issues in futile ICU care	Strongly disagree (%)	Disagree (%)	Not sure (%)	Agree (%)	Strongly agree (%)
In my ICU, decisions regarding 'futility-of-care' are appropriately communicated to the family members	4 (1.5)	20 (7.3)	72 (26.3)	109 (39.8)	69 (25.2)
When I have conflicting opinion with my colleagues regarding withdrawal of ICU care in a futile patient, I openly and strongly voice my opinion	4 (1.5)	42 (15.3)	54 (19.7)	137 (50.0)	37 (13.5)
When a 'recoverable' patient is waiting to be admitted to ICU, I would withdraw therapy in a 'futile' patient	24 (8.8)	93 (33.9)	62 (22.6)	60 (21.9)	34 (12.8)
My decisions regarding withdrawal of futile ICU care will be purely influenced by my scientific medical knowledge	14 (5.1)	47 (17.2)	41 (15.0)	113 (41.2)	59 (21.5)
My decisions regarding withdrawal of futile ICU care will NOT be influenced by my religious beliefs	10 (3.6)	39 (14.2)	38 (13.9)	112 (40.9)	75 (27.4)
Because of continuation of futile ICU care, there is a huge wastage of money and other resources in the place where I practice	10 (3.6)	47 (17.2)	54 (19.7)	88 (32.1)	75 (27.4)
'Government should assist healthcare personnel in the area of 'withdrawal of futile ICU therapy' by passing appropriate laws'	7 (2.6)	21 (7.7)	32 (11.7)	108 (39.4)	106 (38.7)

Table 4. Comparison of responses between doctors and nurses with respect to issues in futile ICU care.

Issues in futile end-of-life care	Category	Disagree	Agree	Phi/Cramer's value	*p*-Value
'Once considered 'futile', patients should not receive any ICU treatment'	Doctor	21	74	0.336	<0.001
	Nurse	76	52		
Partial withdrawal of therapy is appropriate, but not complete withdrawal	Doctor	31	62	0.157	0.034
	Nurse	60	70		
I do not want to withdraw ICU therapy; rather I will not escalate therapy	Doctor	35	64	0.119	0.144
	Nurse	39	75		
In a futile patient, Do-Not-Resuscitate (DNR) decisions must be taken only after agreement of patient/relative	Doctor	37	67	0.165	0.024
	Nurse	28	110		
DNR decisions should be based primarily on the expected quality of life after resuscitation	Doctor	20	82	0.116	0.161
	Nurse	37	94		
Futile patients in ICU should be given enough 'sedation' irrespective of their physiological status	Doctor	31	62	0.112	0.179
	Nurse	49	67		
It is possible to legally defend withdrawal of ICU therapy in a futile patient, once the decision is taken appropriately	Doctor	4	87	0.230	0.001
	Nurse	23	87		
Withdrawal of futile ICU care is more commonly practiced if the patient/ family have to pay for ICU care	Doctor	16	68	0.201	0.004
	Nurse	37	61		
In my opinion, most DNR decisions taken in my ICU are appropriate'	Doctor	4	77	0.203	0.004
	Nurse	18	76		

strongly voice their opinion when they have conflicting opinion with their colleagues regarding withdrawal of ICU care in a futile patient.

Fifty percent of Roman Catholics, Hindus, and other Christian denomination groups agreed that their decisions regarding withdrawal of futile ICU care will be purely influenced by their scientific medical knowledge. Among the Muslim responders, a third 'strongly agreed' to this query and 1.6% disagreed.

Discussion

This survey was the first of its kind in Trinidad and Tobago to capture the knowledge and attitudes of

Table 5. Comparison of responses between doctors and nurses with respect to issues in futile ICU care.

Issues in futile end-of-life care	Category	Disagree	Agree	Phi/Cramer's value	*p*-Value
In my ICU, decisions regarding 'futility-of-care' are appropriately communicated to the family members	Doctor	6	86	0.170	0.019
	Nurse	18	92		
When I have conflicting opinion with my colleagues regarding withdrawal of ICU care in a futile patient, I openly and strongly voice my opinion	Doctor	20	78	0.091	0.323
	Nurse	26	96		
When a 'recoverable' patient is waiting to be admitted to ICU, I would withdraw therapy in a 'futile' patient	Doctor	47	46	0.093	0.307
	Nurse	70	49		
My decisions regarding withdrawal of futile ICU care will be purely influenced by my scientific medical knowledge	Doctor	27	76	0.090	0.328
	Nurse	34	96		
My decisions regarding withdrawal of futile ICU care will NOT be influenced by my religious beliefs	Doctor	17	82	0.072	0.487
	Nurse	32	105		
Because of continuation of futile ICU care, there is a huge wastage of money and other resources in the place where I practice	Doctor	8	88	0.322	<0.001
	Nurse	49	75		
'Government should assist healthcare personnel in the area of 'withdrawal of futile ICU therapy' by passing appropriate laws'	Doctor	2	102	0.249	<0.001
	Nurse	26	112		

healthcare providers, and the findings raise some fundamental issues for medical ethics education, especially regarding care which may be deemed inappropriate.

The ethical implications of inappropriate care are quite topical, generating wide interest among medical, ethical and legal faculty.[11–13] With the advent of newer life-sustaining technologies and the cultural change in the expectations and hopes of family members, ethical issues surrounding non-beneficial care in the ICU have become much more significant in the contemporary period. These issues may be addressed only by better awareness and understanding among the healthcare providers regarding ethical and legal implications pertaining to such type of decisions. The present study is an attempt to elucidate the ICU healthcare providers' extent of knowledge and their attitudes towards this concept of non-beneficial treatment and their intentions to apply it in their practice.

Although the scope of medical practice has considerably changed since the Hippocratic times, debates concerning the concept of the so-called 'medical futility' and its different ramifications including 'who decides medical futility' have not changed much from what was said during the times of Plato and Hippocrates.[14] Even in those ancient times, it was suggested that medical practitioners should recognise their limits in applying the art and science of medicine. Hippocrates advised his students 'to refuse to treat those who are overmastered by their diseases, realising that in such cases medicine is powerless'. He also maintained that it was a defining characteristic of a good physician to withhold therapeutic interventions when limits are reached, regardless of the cost of the care and the patient's ability to pay for it. This is quite relevant to modern-day discussions about rationing and healthcare resource allocation. Modern-day society continues to grapple with these arguments, in this era of rapidly expanding, life-sustaining technologies, stretching the definition of what to consider as 'medical limits' and thus complicating the concept of the so-called 'futile' inappropriate care.

In the present study, more than half of the responders were nursing staff, which correlates with the fact that the nursing staff are the backbone in ICU care and more number of nurses are physically present in ICUs compared to doctors. Also as a corollary, almost 70% of responders were female, which shows the female gender dominance in the healthcare providers. This has been the pattern in most of the healthcare systems all over the world.[15,16]

A quarter of the responders have had five or less years of work experience. This may be the reason for the majority to respond that they did not have much knowledge in laws and ethics pertaining to their work.

Every island nation in the Caribbean region has its own unique characteristics in terms of the structure of the society, traditions as well as the historical aspects of the religious background.[17] Majority of the population in the region belong to the African Diaspora and their acculturation and religious conversion were at different periods of time during the history. A strong religious background may have a profound influence in the practice of ethics in a hospital setting. The ICU staff in Trinidad & Tobago are of mixed ethnicity and religion.

Despite this, the majority agreed to the statement that their decision regarding non-beneficial ICU care will be purely influenced by their scientific medical knowledge and will not be influenced by their religious belief.

The frequency of encountering ethical problems at work-place varied widely similar to another report from Barbados.[18]

Most respondents were unsure of the presence of a Hospital Ethics Committee and only a miniscule 5% felt that the Ethics Committee may assist in end-of-life matters. In Trinidad & Tobago, although the major hospitals do have Ethics Committees, most of them function as Research Ethics Committees rather than assisting in the decision-making processes for ethically challenging clinical scenarios. There are a very few trained clinical bio-ethicists in the Caribbean to assist with ethical dilemmas in hospitals. In addition, the functionalities and roles of a Hospital Ethics Committee have not been uniform and widely vary in different parts of the world. Hence, it is not surprising that the respondents were unaware of the role and functions of Hospital Ethics Committees.

In the present study, only half of the respondents agreed that 'non-recoverable patients should not continue to receive ICU treatment'. Some agreed for partial, but not complete withdrawal of therapy. More than half of the respondents did not want to withdraw ICU therapy, but rather will not escalate the therapy. Although specifically not studied, fear of being blamed or medical litigation may be one of the reasons for such responses. Many physicians are hesitant to withdraw such disproportionate care because of religious beliefs, a feeling of guilt and fear of litigation.[1] Critical care nurses also report frustrations at the different behaviours of physicians during end-of-life care.[19]

Medical futility is a controversial subject in ethics and hence there are many definitions. The Council on Ethical and Judicial affairs of the American Medical Association offers perhaps one of the most lucid definitions: 'In the course of treating a critically ill patient, it may become apparent that further intervention will only prolong the final stages of the dying process; at this point further intervention is described as futile'.[20] Brody and Halevy have categorised futility into four simple types to provide some clarity: physiologic futility, imminent demise futility, lethal condition futility and qualitative futility.[21]

However, many healthcare providers, especially in the ICU, do not have a clear understanding of this paradigm. Non-beneficial care in ICU may be futile, non-proportionate and/or inappropriate according to some authors.[22] It may be not only a difficult concept to understand but also to implement, which was reflected by the responses in the current study also.

Do-Not-Resuscitate (DNR) decisions are also highly debated in the ethical and legal dimensions of clinical practice.[23] Although most respondents in the present study felt that the DNR decisions in their ICUs were appropriate, many were unsure about the implementation.

Many respondents also felt that the Government should assist to withdraw futile ICU care, by passing laws. In Trinidad & Tobago, the National ICU policy document has clearly outlined the conditions for DNR and withdrawal of care and hence can be defended by common law. There is also statutory support for withdrawal of care in brain-dead patients, but only in the context of organ-harvesting. However, there have been instances where intensivists were 'suspended' from job for withdrawing ICU care in patients, even when they were clinically diagnosed to be brain-stem dead. This may be the reason for the respondents requiring the Government to pass laws, when in fact most of these situations can be defended in the court-of-law by the common-law principle.

Doctors and nurses commonly encounter ethical and legal issues in their workplace. However, many are either unaware of their importance or unable to appropriately deal with these issues. The wide difference in the opinions among nurses and doctors also indicates the lack of proper training and knowledge in medical ethics and laws pertaining to their work, which has been reported from other parts of the world too.[24,25]

Also in the present study, irrespective of the category of staff, most respondents accepted that there is a huge wastage of money and other resources due to continuation of non-beneficial care in ICU, which has been reported in previous studies from the region.[18,23]

In conclusion, this study reinforces the view that ICU healthcare personnel have inadequate knowledge regarding non-beneficial care, pointing to the need for appropriate training and sensitisation. Imparting this knowledge in a multidisciplinary setting may help reducing the differences between doctors and nurses with respect to ethical dilemmas. It is also important to develop a training module of clinical ethics and end-of-life care tailored to Trinidad & Tobago and the Caribbean with its diverse ethnic, religious, and cultural background.

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