



Protection of Conscience Project

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A “medical misadventure” in Ireland

Deaths of Savita & Prasa Halappanavar

University Hospital, Galway, Ireland

21-28 October, 2012

Sean Murphy, Administrator
Protection of Conscience Project

Introduction

Savita Halappanavar was a 31 year old woman who was 17 weeks pregnant when she presented at the University Hospital, Galway, on 21 October, 2013, with a miscarriage. She spontaneously delivered a stillborn daughter, Prasa, on the afternoon of 24 October, and died from sepsis early on 28 October. The circumstances of her death generated a hurricane of controversy in Ireland and around the world about Irish abortion law. A coroner's inquest held in Galway in April, 2013 resulted in the classification of Savita's death as a "medical misadventure."

What follows is a chronological account of Savita's care and treatment from 21 to 28 October, drawn from newspaper reports of the evidence taken at the inquest. The accuracy of this narrative depends upon the accuracy of the cited reports. Readers concerned about particular aspects of the case should supplement and check this account against other sources, and those requiring especially detailed information should consult primary sources for the evidence taken during the inquest.

Background

According to evidence given by Praveen Halappanavar at the inquest, he and Savita came from the same part of India. He moved to Ireland in 2006 as an engineer, but he visited India frequently and they married in 2007. Savita was "fit and athletic and popular within both the Irish and Indian communities," he said.¹

Family physician, general practitioner Dr. Helen Cowley, testified that Savita was strong and healthy and “full of joy and full of questions” during their first visit confirming the pregnancy. She described Praveen and Savita as "delighted to be expecting a baby." At a 12 week scan done at the University College Hospital, Savita wept tears of joy on seeing the baby's image on the ultrasound screen. Savita's elderly parents were excited by the news, and, when they came to Ireland to visit, held a baby shower for Savita in Galway according to Hindu custom.²

At some point they learned that Savita was carrying a daughter, and they selected the name Prasa for her.³ Dr. Katherine Astbury, an obstetrician at University Hospital Galway, accepted Savita as her patient and followed her through the pregnancy.⁴

Sunday, 21 October, 2013

Savita first presented at the hospital with back pain and frequent need to urinate. She was seen by senior house officer Dr. Olutoyeke Otatunboson, who diagnosed her as having lower back pain and sent her home.⁵ Savita's obstetrician, Dr. Astbury, reviewing the record of the first presentation later, did not find the report significant, as back pain is common in pregnancy, and Savita had pre-existing problems with it. At the inquest, she conceded that the symptoms could have been indicative of contractions.⁶

1400 (2:00 pm)

Savita and Praveen returned to the hospital after she began to experience severe pain and the sensation that she felt something "coming down." Dr. Otatunboson examined her again and found that the cervix was open and the amniotic sac was protruding through it. Dr. Andrew Gaolebale, a University Hospital Galway registrar in obstetrics, was consulted for a second opinion. He diagnosed "inevitable pregnancy loss" and advised the couple that Savita was miscarrying. He was aware that second trimester miscarriages are often caused by infection, but Savita "showed no clinical symptoms or evidence of signs she might have one."⁷

Savita said, "Why did this happen to me? Sorry, I want to be a good wife." They decided to tell close friends about the situation, but not to tell her parents because they were due to return to India in a couple of days on flights booked months earlier.⁸

Dr. Otatunboson took a blood sample and sent it to the laboratory, but did not follow up to check the results.⁹ Savita's pulse was 80 bpm when she was admitted.¹⁰

Monday, 22 October, 2013

0030 (12:30 am)

Savita's membranes ruptured spontaneously at 0030. Midwife Miriam Dunleavy found that she had vomited in the bathroom and her pyjamas were soaking wet. Ms. Dunleavy called another nurse and they took her back to the bedroom and helped her to change her clothes. Savita began to feel better. They did not notify a physician because ruptured membranes were a routine occurrence on the ward.¹¹ Hospital policy required vital signs checks every four hours after membranes rupture, but that was not done.¹²

According to Dr. Astbury, had the baby been delivered at this point there was no hope of her surviving, but there was a 12-18% chance that the pregnancy could continue long enough for the baby to reach viability.¹³

Dr. Rupanjali Kundu, the hospital's obstetrics and gynaecology senior house officer, was a friend of Praveen and Savita. Having learned that Savita was on St. Monica's ward, she spent about ten minutes with her some time on Monday.

"She was very upset because she knew the baby would not survive. She was very upset, very tearful. I tried to console her. I tried to turn the conversation to future pregnancies," she said.¹⁴

0830 (8:30 am)

On her morning rounds, Dr. Astbury examined Savita and found no evidence of infection. She ordered an ultrasound to determine whether or not the baby had died, explaining that it was important to ensure delivery soon after foetal death to minimize the risk of sepsis. The scan revealed that baby Prasa was still alive. Since Savita's life was not at risk, there were no legal grounds to justify induced delivery. Dr. Astbury prescribed the antibiotic anthramycin to reduce the risk of infection.¹⁵

Dr. Peter Boylan, a former master of the National Maternity Hospital in Dublin, agreed that, under Irish law, delivery could not have been induced before Wednesday morning because Savita's life was not in danger until then.¹⁶

1724 (5:24 pm)

The blood sample drawn the previous day was tested by an unidentified person. The results of the blood test were not provided to the team treating Savita until Wednesday morning.¹⁷

Savita's white blood cell count was 16 x 1000/cubic mm; a normal range in the second trimester is 4.5 to 14.8 x 1000/cubic mm. An elevated white blood cell count can be an indicator of infection, but, commenting on the findings at the inquest, Dr. Otatunbosun did not consider the test result to be a significant departure from the norm. Dr. Gaolebale testified that he would have repeated the test.¹⁸

Tuesday, 23 October, 2013

0820 (8:20 am)

Dr. Katherine Astbury found Savita "emotionally distressed" but not "physically unwell."

"She was finding it very upsetting and difficult to have to sit with the baby in her knowing that the ultimate outcome was that she was very unlikely to come out with a live baby.

"I said to her in this country it was not legal to terminate pregnancy on the grounds of poor prognosis for the foetus," she said.¹⁹

Dr. Astbury acknowledged that, in other countries, a woman could be offered a "termination" if there was a poor prognosis for the foetus.²⁰

0920 (9:20 am)

Savita's parents were returning to India on Tuesday. They planned to come back to Ireland once the baby was born, and left some clothes there in anticipation of their return. Her mother cooked some food and left it in the fridge for Savita to eat when she returned from hospital.²¹ Mrudula Vasealli, a close friend, stayed with Savita while Praveen drove her parents to the Dublin airport. He did not return until about lunchtime.²²

Savita was distraught, at one point crying out, "What kind of a mother am I waiting for my baby to die? I am losing it and I am losing it terribly."²³

1100-1200 (11:00 am -12:00 noon)

Midwife manager Ann Maria Burke came in between 1100 and 1200 to check for a foetal heartbeat, but was unable to do so at first because Savita was crying so much.²⁴ Ms. Burke and the women had a conversation that subsequently became a main focus of international media attention.

"We both, Savita and I, asked if there was a possibility of saving the baby because there was still a heartbeat after three days," she said.

Savita said, "Can you please save it. If you can't do something to stop the foetal heartbeat, I can't take this waiting for the baby to die."²⁵

Ms. Burke left to check with the consultant (presumably Dr. Astbury) to see if a "stitch" (cervical cerclage) could be performed, but returned to say that that it could not be done.²⁶

Savita and Mrs. Vasealli then asked if something could be done to "stop the heartbeat" (i.e., to kill the baby). Ms. Burke said that "they did not do that." Mrs. Vasealli was adamant that Ms. Burke added, by way of explanation, "It's a Catholic thing. Anything else we can do for you."²⁷

It would have been natural, in response to the offer to do "anything else," for Savita to point out that she had also been refused an abortion. It was to this that the conversation turned. According to Ms. Burke, she was talking with the women about the situation in a conversational manner, apparently trying to offer what comfort she could. In testifying at the inquest, Ms. Burke said that Savita could not understand why she had been refused an abortion. Savita said that she was Hindu, and that, in India, an abortion would have been provided in her circumstances. Ms. Burke, feeling that some kind of explanation was expected of her, said that it could not be done in Ireland because it was a Catholic country, or words to that effect. Her intention was to try to illuminate the significant cultural, legal and religious differences between Ireland and India - which are, in fact, the basis for different abortion laws and policies in the two countries.

Ms. Burke told the inquest, "It was more to give information and to kind of throw light on our culture as opposed to her culture. I was trying to be sensitive . . . I was trying to be as kind as I could. . . it came out the wrong way."²⁸

In relating the conversation, Mrs. Vasealli made a remark that suggests that she understood what Ms. Burke's was trying to do.

"The nurses were lovely, they took good care of her," she said. "It's the system that was wrong."²⁹

Praveen was obviously told about the conversation after he returned from the airport, as he referred to it when asserting that they had been denied an abortion three times.³⁰ He was adamant that Dr. Astbury had made the same remark, but Dr. Astbury was equally adamant that she did not, and that Savita had asked her for a "termination" only once, when Praveen was not present.³¹

1900 (7:00 pm)

Elaine Finucane, a student midwife directed by Ann Maria Burke to keep an eye on Savita, checked her pulse and found that it was 114 bpm, up from the normal beat of 89. Ms. Finucane notified Ms. Burke.³²

1935 (7:35 pm)

Ms. Burke was concerned because an elevated heart rate can be one of the symptoms of sepsis. She called the senior house officer, Dr. Inkechukwu Uzockwu. Ms. Burke and Dr. Uzockwu dispute the time and substance of the call. Ms. Burke insists that she asked him if Savita could have a bath and told him about the elevated pulse. Dr. Uzockwu, who could not recall who had called him, put the time of the conversation between 2100 and 2300 (after Ms. Burke's shift had ended) and said that he was told only that Savita was feeling weak, but her vital signs were normal.³³

When midwife Miriam Dunleavy returned to duty for the evening of 23/24 October, she became aware that Savita had an elevated pulse or temperature (news reports note only an elevated pulse, but the report of her evidence refers only to elevated temperature). However, she said that her condition was not serious: "She would have been one of the better patients on the ward."³⁴

Nonetheless, based on a review of the chart, Microbiologist Susan Knowles, a consultant at the National Maternity Hospital in Dublin, concluded that subtle signs of infection were present on Tuesday evening and in the early morning hours of Wednesday.³⁵

It was a very busy night for the midwives.³⁶ During the night, there were 15 patients on the ward and two nurses on duty.³⁷ While evidence was taken concerning lapses in standards of care,³⁸ and the coroner and some expert witnesses were highly critical of the quality of the recording on Savita's chart,³⁹ it does not appear from news reports that any evidence was taken concerning the staffing levels on St. Monica's ward, even though that might have been relevant to both standards of care and recording. Staffing levels were not identified as contributing to Savita's death,⁴⁰ but, if no evidence was taken concerning them, the absence of such a finding is of doubtful value.

2100 (9:00 pm)

Savita's vital signs were checked again and her pulse found to be lower.⁴¹ Her vital signs were not fully checked again until 0600.⁴²

Some time during the evening, Savita sent Mrudula Vasealli a text message, to thank her for "being a good friend." Vasealli replied, telling her, "Just come back home. We will have fun."⁴³

Wednesday, 24 October, 2013

0100 (1:00 am)

Dr. Inkechukwu Uzockwu found Savita asleep and did not examine her.⁴⁴

0415-0430 (4:15-4:30am)

Miriam Dunleavy went to Savita's room in response to a call and found both Savita and Praveen awake. According to Praveen, who was using a mat on the floor next to the radiator to sleep, Savita was shivering and her teeth were chattering. Savita said that the room was cold and Praveen was cold. Praveen testified that he was not cold, though he was given a blanket.⁴⁵ He told the inquest that Ms. Dunleavy checked the heater in the room, though she had no recollection of doing so.⁴⁶

Ms. Dunleavy described Savita as looking tired.⁴⁷ When she pulled a blanket over Savita, Savita shivered once and Ms. Dunleavy saw her teeth "clattering." Ms. Dunleavy gave her paracetamol for the fever.⁴⁸ but deliberately did not check her pulse: "[T]hat was my clinical decision."⁴⁹ Dr. Peter Boylan, reviewing Savita's care at the inquest, described her decision as "probably an error in judgement."⁵⁰

0515 (5:15 am)

When Ms. Dunleavy checked on Savita 45 minutes to an hour later, she found her "snuggled" under the blankets, with a lower temperature.⁵¹ Testifying about this incident at the inquest, consultant microbiologist Susan Knowles said that all of Savita's vital signs should have been checked at this time- not just her temperature. Had that been done, something else of concern might have been noted.⁵²

0630 (6:30 am)

Savita's condition deteriorated so quickly in the next couple of hours that it frightened both of the midwives on duty. Ms. Dunleavy said, "I've never seen a woman with an inevitable miscarriage get so sick, so quickly on our ward in seven years."⁵³ Dr. Inkechukwu Uzockwu was called and examined the patient.⁵⁴

0700 (7:00 am)

Dr. Uzockwu found Savita's pulse was 160 bpm and her temperature was 39.6 Celsius (103.28 Fahrenheit). There was a foul-smelling discharge from her vagina and her blood pressure and respiration rates were elevated.⁵⁵ He diagnosed sepsis secondary to chorioamnionitis (an infection inside the uterus affecting the membranes) and notified a senior physician, specialist registrar Dr. Sarah Campbell of his diagnosis. However, Dr. Campbell did not review the case. The coroner asked for a statement from Dr. Campbell "to see what she understood from the call,"⁵⁶ but news reports of the inquest do not indicate that this was done.

The diagnosis of sepsis ought to have resulted in a change of the antibiotic protocol, but it was not changed for another six hours. Thus, from 0700 to 1300, the antibiotics Savita received were ineffective.⁵⁷

Dr. Uzockwu recorded the discharge, raised pulse and temperature on Savita's chart and passed it to Dr. Anne Helps when they switched rounds. He told her about the spike in temperature and that Savita felt unwell.⁵⁸

A blood sample taken by Dr. Uzockwu intended for a lactate test for the sepsis that ultimately caused her death was mistakenly sent to a laboratory. It should have been processed "at a point of care unit" on the ward. It was not returned to the ward for testing until the afternoon.⁵⁹

Dr. Peter Boylan, testified that an induced delivery would have been legally justified from 0630 Wednesday morning, but would probably have been ineffective in saving her life unless it had been performed before about 0930. From 0630, he said, every hour of delay in providing appropriate treatment increased the probability of death by 6%.⁶⁰

0810 (8:10 am)

Midwife Patricia Gilligan was extremely concerned about Savita and her "alarm bells" were ringing because of her observations of Savita and her chart. She concluded that she believed that Savita was suffering a septic abortion: that she was "so overwhelmed with sepsis" that her foetus would die and abort. Ms. Gilligan, a midwife for 31 years, said, "It wouldn't be my normal miscarriage on a ward. They wouldn't normally have a temperature of 39.6."⁶¹

Ms. Gilligan had Savita moved to a room closer to the nursing station so that she could be watched more closely. She did not discuss her concerns with Dr. Astbury because she understood that the obstetrician, having the patient's chart and making the same observations, would reach the same conclusion.⁶²

0825 (8:25 am)

Dr. Helps, who had received Savita's chart from Dr. Uzockwu, apparently failed to read his chart entry about a foul-smelling discharge and failed to pass this observation on to Dr. Katherine Astbury this observation. Dr. Astbury, apparently relying upon what she was told by Dr. Helps, did not read the entries by Dr. Uzockwu before examining Savita Wednesday morning on her normal rounds. She testified at the inquest that, had she been told about the discharge, she would have immediately induced delivery.⁶³ She was also unaware that Savita's white blood cell count had risen from 16 to 16.9 x 1000/cubic mm., which, she later admitted, could have indicated sepsis.⁶⁴

Dr. Astbury was told that Savita was sweating and having difficulty breathing.⁶⁵ Savita complained of headache, back ache and feeling cold. Baby Prasa was still alive. Dr Astbury noted that Savita's temperature and pulse rate had slightly dropped, and concluded that she was responding to the treatment. She discussed the concern about chorioamnionitis with Savita and Praveen and ordered further tests to rule out a urinary tract infection.⁶⁶ She told Praveen that if a source of the infection could not be identified, a "termination" might be necessary even if there was still a foetal heartbeat.⁶⁷

According to microbiologist Dr. Susan Knowles, the accepted response to the suspicion of chorioamnionitis is early delivery: "Delivery will naturally happen, but if you suspect chorioamnionitis you may have to expedite that."⁶⁸

Some time Wednesday morning, Savita's friend, Dr. Kundu, again stopped by to see her and found her "very sick."

"She was lying on the bed and she was not able to speak that much, she looked really ill. It was a significant change she was quite well on Monday and she was very sick on Wednesday," she recalled.

Dr. Kundu spoke to Praveen, but not to Savita, whom she considered too ill to speak.⁶⁹

1012 (10:12 am)

The blood samples taken at 0700 were sent to the laboratory for testing. Since it takes seven hours to grow a bacterial culture in the lab, the delay in dispatching the samples was significant.⁷⁰ Praveen testified that a member of the medical team told him it would be two days before the results of the tests would be returned.⁷¹

1030 (10:30 am)

Between 0800 and 1030, Savita's blood pressure was found to have dropped every time her vital signs were checked, a symptom of severe sepsis. Dr. Peter Boylan, reviewing the chart at the inquest, said that severe sepsis, which has a mortality rate of up to 40%, had set in by 1030. However, no call was made for a physician to review her condition.⁷²

1300 (1:00 pm)

With Savita's condition deteriorating, Dr. Astbury consulted Dr. Geraldine Gaffney for a second opinion concerning the need to induce delivery. She did this because she considered it good practice to consult with another senior staff member if contemplating "something out of the ordinary," and because inducing the delivery of a living pre-viable foetus engaged the Irish abortion law. Her plan was to give her the drug Misoprostol, an abortifacient that might take eight to ten and up to 24 hours to induce labour.⁷³ Dr. Gaffney agreed that there was a "real and substantial risk" to Savita's life,⁷⁴ the justification for abortion required by Irish law. The second is that the risk to the life of the mother can be adequately addressed only by an abortion.⁷⁵

1320 (1:20 pm)

Following the conversation with Dr. Gaffney, Dr. Astury decided to proceed with an induced delivery.⁷⁶

1345 (1:45 pm)

Dr. Astbury had a further scan done of Savita and discovered that baby Prasa had died. Since Savita was in septic shock, she was taken to the operating theatre for the insertion of a central venous line. Dr. Astbury wanted to move her to the intensive care unit, but there were no beds available, so she arranged for her assessment for High Dependency Admission.⁷⁷

1400 (2:00 pm)

Between 1330 and 1400 Dr. Askbury called microbiologist Dr. Deirbhile Keady to get advice about the best antibiotic treatment for sepsis. The antibiotic regimen was adjusted accordingly, and from this point Savita was being given the most suitable drugs.⁷⁸

1515 (3:15 pm)

In the theatre, while the central line was being inserted, Savita unexpectedly and spontaneously delivered stillborn baby Prasa. Praveen stated at the inquest that they had not previously been told that Prasa had died. Dr. Astbury disputed this, insisting that she gave them the news after the scan at 1345.⁷⁹ Savita asked for her husband, and they were given privacy to grieve for their daughter.⁸⁰ Baby Prasa was later found to have an extra digit on her right hand, but no other abnormalities.⁸¹

Shortly before the delivery, the test of the blood sample from Savita that had been mistakenly sent to a laboratory in the morning disclosed a lactate level of 8.8, indicative of severe sepsis.⁸²

1615 (4:15 pm)

Savita, "weak and distressed," was transferred to high-dependency unit. For the next few hours she remained conscious, restless, sipping water, and intolerant of a facemask providing 80% oxygen.

Nurse Aine Nic an Beatha helped her to brush her teeth.⁸³

1930 (7:30 pm)

When Praveen went to see Savita in the High Dependency Unit (HDU) he was given a plastic apron to put on before going to her bedside. The nurse commented, "Savita is a beautiful girl. She's lovely." He told her that her parents had arrived safely in India, and showed her a text message from her brother. She expressed relief. He did not know how grave her condition was. This proved to be the last time she was fully conscious, and their last conversation.⁸⁴

2100 (9:00 pm)

Tests show speticaemia caused by Escherichia Coli Extended Spectrum Beta-Lactamase (E Coli ESBL). Savita was responding to the antibiotics being given, so there was no need to make further adjustments.⁸⁵

E Coli ESBL is rarely encountered in maternity cases. There was no record of it having been identified in the University Hospital Galway in the preceding four years.⁸⁶

Thursday, 25 October, 2013

0300 (3:00 am)

Savita was transferred to the Intensive Care Unit because of her deteriorating condition.⁸⁷

Friday, 26 October, 2013

2000 (8:00 pm)

Dr. Astbury attended Savita in the evening. Presumably near this time, she advised Parveen about the test results showing E coli ESBL and explained that her medications had been modified accordingly.⁸⁸

Saturday, 27 October, 2013

Indian community members gathered at the hospital to support Praveen. By Saturday evening, 50 to 60 had gathered there.⁸⁹

2130-2200 (9:30-10:00 pm)

As her condition deteriorated in intensive care, Savita received blood and platelets, was ventilated and placed on dialysis, and was given adrenaline infusions. Intensive care nurse Jacinta Gately spoke several times with Praveen during the night. Between 2130 and 2200 she brought him and some friends to see her.⁹⁰ It appears that one of them was orthopaedic surgeon Chalikonda Prasad, who had known the couple for several years. He testified that, when he saw here, "she was bloated and he knew she wasn't going to make it." He asked Praveen why the hospital had not provided an abortion, and Praveen told him that he had told that Ireland was a Catholic country, and abortion was illegal.⁹¹

2400 (12:00 midnight)

Savita continued to weaken. By midnight, nurses working with her were forced to pause after turning her in bed to allow her heart to settle.⁹²

Sunday, 28 October, 2013

0030-0045 (12:30-12:45 am)

Savita appears to have developed a fatal arrhythmia and no pulse could be found. Cardiopulmonary resuscitation was commenced. Nurse Jacinta Gately went out to tell Praveen what was happening.⁹³ He wanted to be present while the physicians were doing CPR, and she brought him into the room with a friend to support him.⁹⁴

0105 (1:05 am)

Resuscitation efforts were unsuccessful and discontinued, and the time of Savita's death recorded at 0109.⁹⁵ Afterward, Praveen collapsed in the hospital corridor, vomiting repeatedly and unable to walk.⁹⁶

Results of the inquest

Cause of death

Savita was found to have died from septic shock, a condition in which overwhelming infection causes life-threatening low blood pressure that can lead to multi-organ failure. The primary infection was found to be E Coli ESBL. Severe chorioamnionitis was a co-factor.

Pathologist Peter Kelehan testified that Savita had all of the symptoms of septic abortion. In 40 years he had encountered only five cases of septic abortion; all of the mothers had survived. In a septic abortion the death of the placental tissues causes the rapid growth of infection, which makes it essential to evacuate the uterus once the baby has died. Dr. Kelehan said that the sepsis suffered by Savita was the worst he had ever seen. Although he had seen 700 to 800 miscarriages annually at the National Maternity Hospital, he said it was extremely rare in cases of chorioamnionitis to see the level of inflammation found in Savita.⁹⁷

"When you see this you pick up the phone," he said, of what would be his reaction to viewing the products of conception, so infected, under a microscope in a laboratory.

"This is so important you pick up the phone and make the call," he stressed again.

He did not elaborate further but implied that this would "or should" rapidly set off a chain of urgent medical intervention in an endeavour to save the life of the patient.⁹⁸

Professor Grace Callagy, the pathologist who performed the autopsy, noted that E Coli infection had been found in the rectum. She thought it most likely that that was where the infection originated, and that it ascended the genital tract to the uterus. The most common source of infection in such cases is one ascending the genital tract. There was no other locus of infection.⁹⁹ According to Professor Callagy, while sepsis or septic shock is not uncommon at postmortem, it is rarely seen in

maternal deaths.¹⁰⁰ In Savita's case, it was so severe that even her bone marrow was affected.¹⁰¹

Verdict

On what would have been Praveen and Savita Halappanavar's fifth wedding anniversary, the coroner's jury delivered a verdict of "medical misadventure" and unanimously endorsed nine recommendations.¹⁰²

Recommendations

1. The Medical Council should say exactly when a doctor can intervene to save the life of a mother, which will remove doubt or fear from the doctor and also reassure the public;
2. Blood samples are properly followed up;
3. Protocol in the management of sepsis and guidelines introduced for all medical personal;
4. Proper communication between staff with dedicated handover set aside on change of shift;
5. Protocol for dealing with sepsis to be written by microbiology departments;
6. Modified early warning score charts to be adopted by all staff;
7. Early and effective communication with patients and their relatives when they are being cared for in hospital to ensure treatment plan is understood;
8. Medical notes and nursing notes to be kept separately;
9. No additions or amendments to be made to the medical notes of the dead person who is the subject of an inquiry.

Notes

1. "Almost doubled over with sorrow, weeping widower recalls final moments with wife." *Irish Independent*, 09 April 2013. (Accessed 2013-04-28)
2. "Almost doubled over with sorrow, weeping widower recalls final moments with wife." *Irish Independent*, 09 April 2013. (Accessed 2013-04-28)
3. Anderson, Nicola, "Praveen can't listen to poignant description of tiny baby Prasa." *Irish Independent*, 18 April 2013. (Accessed 2013-04-27)
4. Crawford, Caroline, "Savita: Doctor had decided on abortion go-ahead." *Irish Independent*, 9 April, 2013)
5. Crawford, Caroline, "Midwife told Savita refusal of termination was "a Catholic thing," inquest hears." *Irish Independent*, 9 April, 2013 (Accessed 2013-04-28); "Woman 'had higher white cell count'." *Irish Independent*, 9 April, 2013 (Accessed 2013-04-28)

6. Crawford, Caroline, "Savita doctor- law was factor in termination decision." *Irish Independent*, 10 April, 2013. (Accessed 2013-04-28)
7. "Woman 'had higher white cell count'." *Irish Independent*, 9 April, 2013 (Accessed 2013-04-28); Crawford, Caroline, "Midwife told Savita refusal of termination was "a Catholic thing," inquest hears." *Irish Independent*, 9 April, 2013 (Accessed 2013-04-28)
8. Harkin, Greg, "Savita's husband breaks down reliving her last moments." *Irish Independent*, 8 April, 2013 (Accessed 2013-04-28); "Almost doubled over with sorrow, weeping widower recalls final moments with wife." *Irish Independent*, 9 April 2013. (Accessed 2013-04-28)
9. Sheehan, Maeve, "Shortcomings in care of Savita have ramifications for all State hospitals: Inquest shows litany of mistakes caused fatal infection to be missed." *Irish Independent*, 14 April, 2013 (Accessed 2013-04-27)
10. "Savita Halappanavar: How the events of October 24 unfolded." *Irish Independent*, 9 April 2013 (Accessed 2013-04-28)
11. Sheehan, Maeve, "Shortcomings in care of Savita have ramifications for all State hospitals: Inquest shows litany of mistakes caused fatal infection to be missed." *Irish Independent*, 14 April, 2013 (Accessed 2013-04-27); Crawford, Caroline, "She was one of the healthiest patients on ward, midwife says." *Irish Independent*, 10 April, 2013 (Accessed 2013-04-28)
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13. Crawford, Caroline, "Savita doctor- law was factor in termination decision." *Irish Independent*, 10 April, 2013. (Accessed 2013-04-28)
14. Crawford, Caroline, "Midwife told Savita refusal of termination was "a Catholic thing," inquest hears." *Irish Independent*, 9 April, 2013 (Accessed 2013-04-28)
15. Sheehan, Maeve, "Shortcomings in care of Savita have ramifications for all State hospitals: Inquest shows litany of mistakes caused fatal infection to be missed." *Irish Independent*, 14 April, 2013 (Accessed 2013-04-27)
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