



OFFICE OF THE STATE CORONER

NON-INQUEST FINDINGS OF THE INVESTIGATION INTO THE DEATH OF NICOLE PETERSEN

CITATION: **Investigation into the death of Nicole Carolyn Petersen**

TITLE OF COURT: Coroner's Court

JURISDICTION: Southport

FINDINGS OF: Mr James McDougall, Coroner

CATCHWORDS: **CORONERS: consumption of poppy seeds and cough medicine, death from mixed drug toxicity, delay in seeking medical treatment, decision not to call an ambulance**

Counsel Assisting: Ms Megan Jarvis, Office of the State Coroner

Ms Nicole Petersen (Nikki) was 19 years of age at the time of her death.

On Friday 30 March 2012 Nikki travelled from Victoria to Brisbane to attend the 21st birthday party of Max, a friend, whom she had met in November 2011. The pair had stayed in touch since that time and had arranged for Nikki to stay with Max at his home for the weekend of his party, which was scheduled for Saturday 31 March 2012, until the following Wednesday.

At the time of Nikki's visit, Max lived at an address in Greenbank with his parents, his brothers and his sister. During her stay, Nikki slept in Max's bedroom with Max.

Max and Nikki had planned to *get stoned* together during Nikki's visit and consumed a variety of substances over the course of her stay including marijuana, cough syrup and one tablet each of diazepam.

The day prior to Nikki's death, Sunday 1 April 2012, Nikki purchased a quantity of poppy seeds from a local supermarket. Max remembers Nikki spending some time looking at the different quantities of packets and jars available, making sure they were buying the right amount that they needed. Nikki told Max *I've had 300ml before and it didn't last long*. Nikki chose a number of satchels and jars of poppy seeds and purchased them at the self-serve checkout.

They returned to Max's home and went to Max's room, where they each shared some of the remaining cough medicine Nikki had purchased earlier that weekend. Nikki then showed Max photos on her phone of some *poppy seed tea* she had made in Melbourne and they talked about how to make it.

Max helped Nikki to make the poppy seed mixture using empty soft drink bottles to mix the seeds with cold water. They then poured some of the mixture into glasses and added some of the cough medicine to the glasses. Nikki and Max took the poppy seed tea to Max's room where they slowly sipped the tea over the course of an hour or so.

Max and Nikki experienced effects of the *poppy tea* for the remainder of Sunday evening with Max describing it as a *beautiful experience* and *the most fun we've had in a long time*.

Nikki and Max went to bed sometime between 11:00pm and midnight on Sunday 1 April 2012. As they were falling asleep, Max heard Nikki *make some strange breathing noises* as she was breathing in and out, which he described as *like a groaning noise, like she had trouble breathing*. Max said to Nikki *Why are you making those strange noises Nikki?* She answered him straight away, saying, *What strange noises? Maybe it's a split personality of mine coming out that I don't know about*. Max thought she was making a joke.

During the night Max occasionally heard Nikki making the noises again, except it seemed more *like heavy snoring*. He tried to wake her up two or three times but couldn't so he went back to sleep.

Max awoke the next morning, Monday 2 April 2012, sometime between 5:00am and 5:45am. He noticed that Nikki was limp and unresponsive and would not wake up or respond to his voice or to being physically shaken.

Max alerted his mother to what was happening and she went to his assistance. She told Max to sit Nikki up, saying *let's try to bring her around*. Max's mother later told the Queensland Police Service (QPS) that *at this point I thought she might have overdosed on this 'poppy tea' but never thought it would be life threatening as it wasn't a 'street drug' or hard drug that I'd ever heard of*.

As they were trying to dress her and wake her up, Max's mother tried to open Nikki's eyes using her fingers. She saw that Nikki's eyes were rolled back into her head. Nikki was non-responsive and limp and at this point she says *I knew we had to get her to a hospital*.

Max's mother decided to drive Nikki to the hospital themselves rather than call an ambulance. In explaining this decision to QPS, she stated *because of how far out we live I thought it would be no use to call an ambulance and far quicker if I drove.*

Max and his brothers carried Nikki downstairs to the garage and placed her in the back of their father's car. His mother then drove to Logan Hospital with Max, Nikki and his two brothers.

The group arrived at the Logan Hospital emergency department presenting at 6:49am on 2 April 2012. Nikki was noted to be unresponsive, not breathing and with no pulse and no detectable blood pressure. She was quickly moved into the resuscitation area of the emergency department where staff attempted cardiopulmonary resuscitation including multiple doses of adrenalin. Nikki was unable to be resuscitated and was declared deceased at 7:25am.

Autopsy findings & toxicological testing

On 4 April 2011, an external and full internal post-mortem examination was performed by Pathologist, Dr Rohan Samarasinghe. A number of toxicology and histology tests were also conducted.

In Dr Samarasinghe's opinion, the cause of Nikki's death was due to a mixed drug toxicity, in which morphine and dextromethorphan were the major components. Morphine is well document as being present in poppy seeds, whilst dextromethorphan is a cough suppressant with central nervous system depressive properties. Diazepam (benzodiazepine) was also detected in the blood at a low therapeutic level. Dr Samarasinghe noted that the overall results were in keeping with a history of ingestion of poppy seeds along with cough syrup and diazepam.

Dr Samarasinghe concluded that the mechanism of death would have been central nervous system depression by the high levels of morphine and dextromethorphan, which may have been compounded by the presence of diazepam.

Expert opinions

Dr Sally Jacobs, Forensic Medical Officer, Clinical Forensic Medicine Unit, Queensland Health, reviewed the information regarding the circumstances surrounding Nikki's death and provided a report to the Coroner.

Dr Jacobs agreed with the pathologist's findings as to Nikki's cause of death, noting that the levels of morphine (from the poppy seeds) and dextromethorphan (from the cough syrup) found in Nikki's blood samples were both within the range at which fatalities have been reported. Dr Jacobs explained that each of these substances have depressant actions on the nervous system and can cause, among other things, excess sedation and respiratory depression to the point of eventual coma and death

Whilst the level of diazepam found in Nikki's blood samples was below the therapeutic range, Dr Jacobs noted that the use of diazepam in combination with other central nervous depressants such as morphine and dextromethorphan may have increased the risk of excess sedation and respiratory depression.

Dr Jacobs advised that the possible initial effects of intoxication from the poppy seed tea mixture that may have been felt by Nikki and/or observed in her by others included feeling calm, heightened mood or euphoria, unsteadiness, nausea, vomiting and sweatiness. The toxic effects of the mixture may include confusion, hallucinations, lethargy, increasing drowsiness and sleepiness, lowering of blood pressure, a slowing in respiratory rate, shallow breathing, lowered body temperature, cold and clammy skin and eventual coma.

Dr Jacobs confirmed that Max's description of events that evening, including the time that Nikki fell asleep, the breathing sounds she made after this time, and his inability to wake her

during the night, were consistent with Nikki suffering from excessive sedation at these times due to the effects of the poppy tea mixture. Dr Jacobs noted that once Nikki was asleep and sedated, she was at increased risk of respiratory depression.

Professor Stephen Rashford, Medical Director, Queensland Ambulance Service, Department of Community Safety, at the request of the Coroner, provided his opinion on a number of issues relating to the decision not to call an ambulance and the likelihood that such action may have resulted in a different outcome for Nikki.

By way of summary, Professor Rashford advised that had an ambulance been called that morning, it would have likely arrived at the Greenbank address within a period of 12 to 14.5 minutes (based on an analysis of emergency vehicles actually available and in the vicinity on that date). Paramedics would have been expected to treat Nikki by way of artificial ventilation to support her airway and improve her oxygenation which, if Nikki still had cardiac output at the time of treatment, would *more likely than not* have resulted in Nikki's resuscitation. Professor Rashford noted however that even with resuscitation, Nikki may have suffered a brain injury.

Professor Rashford also noted that for patients with narcotic overdose who have suffered a full cardiac arrest, the chances of survival are almost nil. Healthy myocardial cells are relatively resistant to low oxygen levels over a period of time. For the heart to stop beating this means the oxygen levels have been so profoundly reduced for such a period of time that the heart is depleted of all energy stores. This is an almost irretrievable scenario, and is likely why Nikki was not able to be resuscitated once she presented to the hospital in full cardiac arrest.

Queensland Police Service investigation

In the course of its investigation into Nikki's death, QPS gathered information in an effort to determine whether or not Nikki's death was purely a case of misadventure, or whether any criminal offence could be detected, including possible breaches of duties imposed by the Queensland Criminal Code relating to the preservation of human life.

QPS looked particularly at the actions taken by Max and his mother once they had realised Nikki's health was at serious risk, including their decision to transport Nikki to hospital themselves rather than call an ambulance, and also with regard to the apparent time delay between the time Nikki was discovered in a state of ill health and the time that she arrived at the hospital.

Decision not to call an ambulance

The accounts provided to QPS by each of the members of the family as to the timing of key events on the morning of Monday 2 April 2012 were not entirely consistent, which is unfortunate but understandable given the likely shock, panic and confusion they all experienced that morning.

Nikki was found in a state of serious ill health as early as 5:00am and possibly as late as 5:45am. Hospital records show that Nikki arrived at the Logan Hospital at 6:49am at which time she was unresponsive, not breathing, had no pulse and no recordable blood pressure; in other words, there were no visible signs of life.

Both Max and his brother state that they believed Nikki was still breathing, although very faintly, at the house and also on the drive to the hospital. Max thought he could hear or feel a heartbeat when he pressed his ear to Nikki's chest at the house.

According to Dr Rashford of the QAS, it is *more likely than not* that Nikki would have been successfully resuscitated had paramedics been able to treat her whilst she still had a heartbeat. Dr Rashford further advised that if an ambulance had been called that morning, it would have arrived within 12 to 14.5 minutes of the call.

The earlier estimate of time at which Nikki was first noticed, that is, around 5:00am, was provided by Max. Given his significant state of shock and distress and the likely effects of the substances he had consumed the previous evening, it is reasonable to give less weight to his account of the time than to the accounts of his mother and brother, who estimated the time to be around 5:45am.

If a 'Triple 0' call had been made at this time, paramedics would have arrived to begin treating Nikki possibly as early as 12 minutes later, at 5:57am.

Max's mother believed that by driving Nikki to the hospital herself, Nikki would receive medical treatment more quickly than if they waited at home for an ambulance. Unfortunately, she was mistaken in this belief. She estimated that the journey from her home to the Logan Hospital would normally take her around 40 minutes. It appears she did not have the confidence that the QAS would arrive within a shorter period of time than this.

Nikki's presentation at the hospital at 6:49am was almost an hour after the estimated time at which earlier and potentially lifesaving treatment would have been available to Nikki, had an ambulance been called at 5:45am and arrived 12 minutes later.

However, Dr Rashford also makes it clear that if Nikki did *not* have a heartbeat when she was discovered that morning, the likelihood of her being successfully resuscitated after that time was almost nil.

It is not possible to establish Nikki's true condition at the time she was discovered that morning, either from the evidence already gathered by QPS or by way of inquest. Max's family members provided what appear to be full and credible accounts of what they saw and heard and it is difficult to see what better information these non-medical persons could provide at inquest that would enable a conclusive finding as to whether Nikki did have a heartbeat at the time she was found.

As such, it is not possible to comment on whether in fact Nikki would have been successfully resuscitated, had an ambulance been called and arrived at the family home in a timely way that morning.

Delay in leaving the house

Max's mother states it took her 18 minutes to drive to Logan Hospital from her home, which she was able to achieve by *speeding*. Nikki arrived at the hospital at 6:49am. If her recollection as to the time it took her to drive to the hospital is accurate, she would have left her home at around 6:30am. The time between first noticing Nikki as unresponsive (between 5:00am and 5:45am) and the time at which the car left for the hospital (around 6:30am) was therefore somewhere between 50 minutes and one hour and 25 minutes.

Max and his mother's statements as to the events at their house that morning paint a picture of this window of time as one of shock, disbelief and uncertainty as to how serious the situation was and what to do. Max told QPS that *most of the time taken was trying to wake up Nikki*. Max's mother told QPS that *at this point I thought she might have overdosed on this 'poppy tea' but never thought it would be life threatening as it wasn't a 'street drug' or hard drug that I'd ever heard of*.

Whilst QPS expressed concern regarding the family's delay in leaving the house with Nikki, QPS ultimately concluded that, in its opinion, there was insufficient evidence to charge Max or his mother with an offence under the Queensland Criminal Code, relating to the duties to preserve human life. QPS considered that, given the circumstances including the lack of appreciation of the risk of poppy seeds and the effects of shock and panic, the actions of Max and his mother once discovering Nikki's state of health were not overtly dangerous, and that they reasonably believed the quickest way to seek medical attention for Nikki was to drive her to the hospital.

Other relevant considerations

It is relevant to consider the extent to which Nikki was involved in the events leading to her death. It is clear that it was Nikki, rather than Max, who suggested the idea of taking *poppy seed tea* that evening and who had prior knowledge of how to extract the opiates from the poppy seeds for consumption. Nikki purchased the poppy seeds and cough medicine, mixed the substances together with Max's help, and willingly drank the mixture with the intention of getting *high* or *stoned*. Unfortunately, it appears Nikki may not have appreciated the risk of taking these two substances, particularly in combination. It was Nikki's deliberate and willing actions that ultimately led to her tragically unexpected and unintended death.

Conclusion

It is clear from information provided by Max's mother that, if she had been aware of the danger of consuming a mixture made from poppy seeds, she may have had a greater appreciation of the seriousness of Nikki's condition and in turn may have acted more quickly with regards to seeking medical help for Nikki. She acknowledges this in her statement to QPS. It is also clear that both Max and Nikki greatly underestimated the risks of consuming the poppy seed tea mixture, particularly when mixed with cough medicine.

There also appeared to be a lack of appreciation by Max's mother as to the value of seeking the assistance of the QAS at an earlier stage for the purpose of providing medical treatment at the scene. She made the decision not to call the ambulance on the basis that she could get Nikki to the hospital more quickly than the ambulance. Yet information from QAS shows that an ambulance could have arrived and commenced lifesaving interventions within 12 to 14.5 minutes of a call to 'Triple 0'. Instead she drove to the hospital, which she says she knew to be a 40 minute drive under normal circumstances (although she claims she was able to drive there within 18 minutes by speeding).

I am therefore publishing the findings of this coronial investigation into Nikki's death so as to inform the public of the risks of poppy seed consumption and to promote and reinforce the vital lifesaving services provided by QAS.

I also intend to write to the Queensland Department of Health to ask what action might be taken to further inform and draw the public's attention to the dangers of poppy seeds, and to suggest that consideration be given to whether other regulatory action may be warranted for protecting individuals from the risks posed by poppy seeds (including with regards to the availability and labelling of products containing poppy seeds within the retail sector).

With regards to promoting the vital lifesaving services provided by QAS, I note that QAS has recently undertaken significant work in this area, including through the establishment of its own social media accounts on Facebook, Twitter and YouTube and online publication of a newly formatted and reader-friendly quarterly *Public Performance Indicators* report, which includes figures as to QAS emergency response times to life threatening incidents across Queensland. I commend QAS for these proactive engagement and education strategies as a means of building public confidence in QAS' ability to respond to 'Triple 0' calls and provide vital lifesaving services in a timely way.

I am of the view that there are no further issues that require investigation. As such, I propose to close the coronial investigation without proceeding to inquest.

Mr James McDougall
South Eastern Coroner
Southport
25 July 2014