



TZU CHI NURSING CARE



With the Compassion of Bodhisattvas, Where Ever Sufferings Are, We Are.



RESCUE

and
CUIRE

**Disaster Nursing Experiences and
Expertise Cultivation**

The routine of nurses is to save lives and preserve health.

Are they capable of handling large scale disaster when it occurs?

Taiwan experienced, since the end of last year, Kaohsiung gas explosion, Yonghe fire, and Nangang air disaster, to dengue fever and dust explosion early summer.

The impermanence of life is all around us.

In response to the frequent disasters, disaster nursing is mandatory for all nurses.

A comprehensive training provides necessary capabilities in the time of need.

An extra effort, when a disaster comes, grant extra strength to save one more life.



Hsu Mei-Hua, Supervisor, Dept. of Nursing, Taipei Tzu Chi Hospital

We, Taipei Tzu Chi Hospital Nursing Department, had decided at the end of May 2015, the theme for this issue to be the disaster response capability of our nurses. The first draft of the survey was to be ready June 19. While the discussion was underway, a week later the largest public accident in the history of Taiwan caught everyone by surprise. It was the Formosa Fun Park Dust Explosion. The accident was a test for the entire staff of Taipei Tzu Chi Hospital. Fortunately under the care of our staff, by September, majority of the dust explosion survivors were discharged.

It came as a daunting realization, particularly in the recent years, that major catastrophes, both natural and artificial, national and international, have increased significantly in frequency and unpredictability. On July 31, 2014, Kaohsiung was hit with gas explosion; August 20, Ankeng gas explosion; and September 12 Yonghe fire. February 2015 we had TransAsia Airways crash in Taipei, and on April 25 a 7.9 earthquake shook Nepal. As the voluntary hospital staff dispatched to the disaster areas completed their two-month long relief mission, a dust explosion at the Formosa Fun Park sent shock waves throughout Taiwan, not to mention the Dengue fever in Southern

Taiwan that had been exhausting our staff since May. What we are dealing with has expanded into the domain of public health care. Impermanence is all around us.

In an age when CPR is widely taught, where automated external defibrillator (AED) is commonly seen in public area, what extra set of skills should we, as nursing professionals, should acquire? Are we truly prepared in the time of need?

40% Had Received Disaster or Emergency Response Training

The survey recovered a total of 1,540 valid responses. Out of these respondents, 37.9%(583 respondents) have received national or international disaster nursing or emergency response training, the other 62.1% have not received any emergency response training. Reasons for the absence of training could be that these nurses were relatively new or only worked in the department of internal medicine, and that the nursing training in school did not include disaster nursing as its core curriculum. Nurses can only acquire disaster response care through training courses such as clinical continued education, mass casualty drill, and toxic disaster drill.

Basic Statistics

Gender	Number	%
Male	47	3.1
Female	1,493	96.9
Total	1,540	100.0
Nursing Level	Number of People	%
N	556	36.1
N1	244	15.8
N2	527	34.2
N3	147	9.6
N4	66	4.3
Total	1,540	100.0
Job Title	Number of People	%
Registered nurse/nurse	1,238	80.4
Case manager	38	2.5
Deputy head nurse	42	2.7
Head nurse	68	4.4
Supervisor or higher	19	1.2
Nurse practitioner/senior RN	111	7.2
Other	24	1.6
Total	1,540	100.0
Department	Number	%
Internal Medicine	268	17.4
Surgical	263	17.1
Pediatrics	71	4.6
Gynecology and Obstetrics	63	4.1
ER/Acute Trauma	318	20.7
Functional Team	26	1.7
Hemodialysis	43	2.8
OR	113	7.3
Outpatient Clinic	172	11.2
Palliative Care	28	1.8
Administrative	62	4.0
Other	113	7.3
Total	1,540	100.0

Q1 | Have you received any disaster care or emergency response training (national/international)? (N = 1,540)



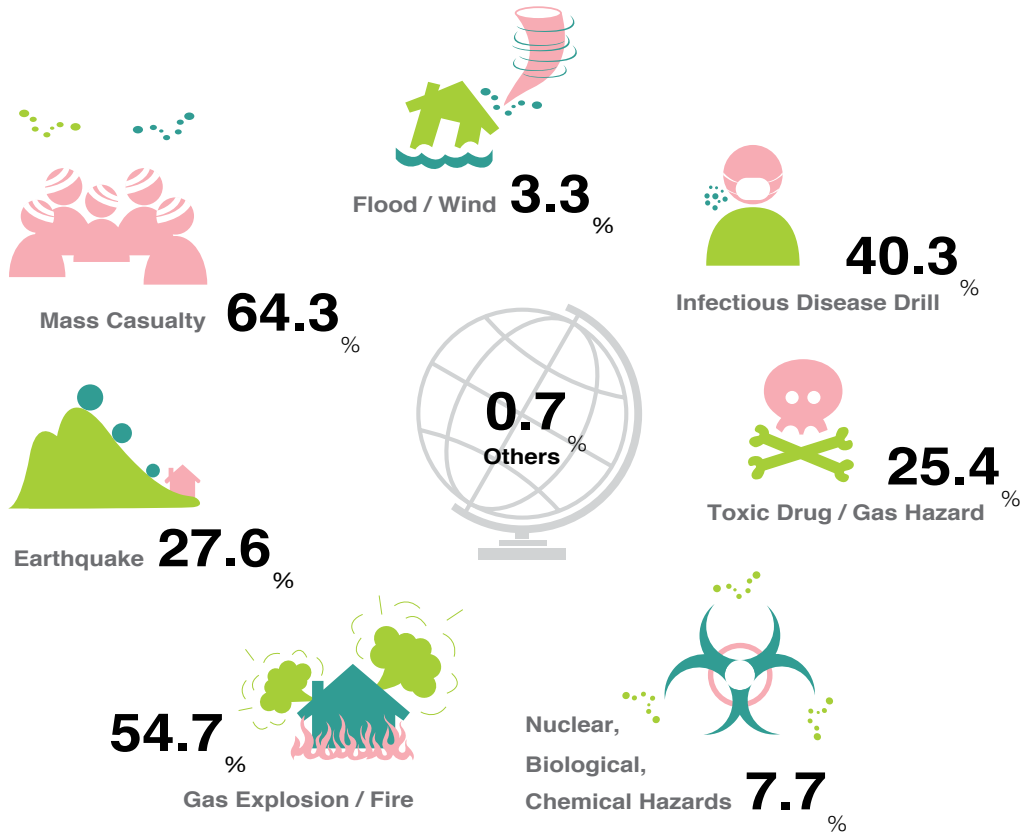
In a multiple choice, the question asked the respondents the kind of disaster nursing or emergency response training they had received, the first three choices from the 583 respondents out of the entire sample were as followed: Mass casualty 64.3%, gas explosion/fire 54.7%, and lastly earthquake and chemical/gas hazard.

Taipei Tzu Chi Hospital holds a variety of emergency response training annually, like fire response simulation that includes escaping from a smoked room, operating a fire extinguisher and emergency escape apparatus, in conjunction with a fire drill. Moreover, the emergency room runs a hospital-wide mass casualty drill every year.

When the Fuxing Airline crashed in February, our emergency room head nurse Fang-Ling was assisting on site. She soon realized that, despite the mass casualty drills, the opportunity to cooperate with fire department personnel on site is rare. She saw, at the crash site, how the well-trained firefighters divided into “search and rescue” and “treatment and evacuation”, and the scope, strategies, and equipment the fire departments deployed in a mass casualty situation. Fang-Ling brought her observation back to the hospital, with the hope to provide efficient and timely care to patients in a mass casualty incident. New infectious diseases have emerged rapidly in the last two years, such as Ebola in central Africa in 2014

Q2

What type of disaster care or emergency response training did you receive? (N = 583, multiple selection)



and MERS in Seoul in 2015. In response to the new imposing threat, Taipei Tzu Chi Hospital performs epidemic prevention training and simulation drills to ensure the safety for both our frontline staff and for our patients.

15% Had Disaster Nursing Experience, Mostly in Mass Casualty

When asked whether or not the respondents had personally participated in disaster nursing, out of the entire nursing staff, 86.2% claimed no, and 13.8% claimed yes. Among the latter, 12.7% had joined disaster nursing in Taiwan, 0.5% overseas, and 0.6% had experience both in Taiwan and overseas.

When those who had disaster nursing experience were asked to

select the type of disaster nursing they had encountered, 62.0% wrote mass casualty, 35.2% gas explosion/fire, 29.1% earthquake, and 16.9% flood/wind. Some even engaged in biohazard, toxic chemical or gas disaster. Under the other options, some wrote tsunami, Taroko rockfall, and so on. In actuality, gas explosion, fire, wind disaster could also trigger the hospital's mass casualty incident protocol. The answer reveals the fact that most of our nursing colleagues who had disaster nursing experience engaged in disaster nursing in a hospital setting.

Emergency Care First, On-Site Risk Assessment Second

When asked which skills were applied, 71.8% of the experienced respondents answered emergency care, 44.6% answered assisting/executing invasive medical procedures, 39.0% answered handling and administering medication in temporary aid station, 35.2% answered medivac, and 30.5% safety measures and precautions. Few wrote about the establishment of aid stations during international disaster relief or solacing disaster survivors.

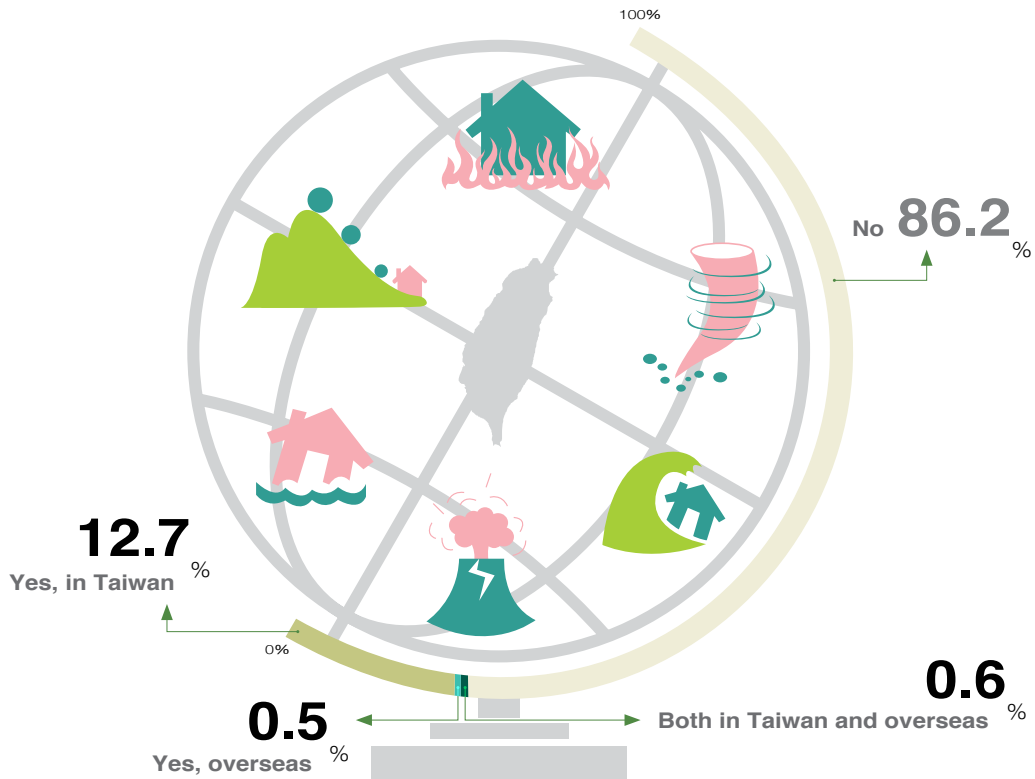
When these experienced respondents were asked the skills they deemed lacking the most, "emergency care" and "on-site risk assessment" both exceeded 50%. An

interpretation is that these respondents are not satisfied with their on-site responses and wish to improve. "Post-traumatic guidance and support" and "multidisciplinary capability" came second. Nurses are often required, in a hospital setting, to master their professional skill sets before learning how to communicate with patients and families. In a disaster area, though, grief counseling is almost mandatory for every medical professional involved in the relief mission, whether they are proficient or not. As for multidisciplinary capability, most likely the respondents hoped to know a little of everything to be helpful on-site.

When nurses saw on the news other nurses saving lives, they are inevitably curious about the intricate details such as the exact symptoms of the patient, or how the nurses became involved? Then they would imagine, "what if this happened to me? How would I proceed?" Perhaps some are ready to act in the case of emergency, while others ponder and hesitate.

Every clinical nurse must be proficient in the protocols and skills of advanced life support (ALS). In emergency units, advanced cardiovascular life support (ACLS) and intensive care training is a must. The emergency room continuing education program arranges multiple revisions of role assignments and process in mass casualty event every year, from tabletop exercises to understand the

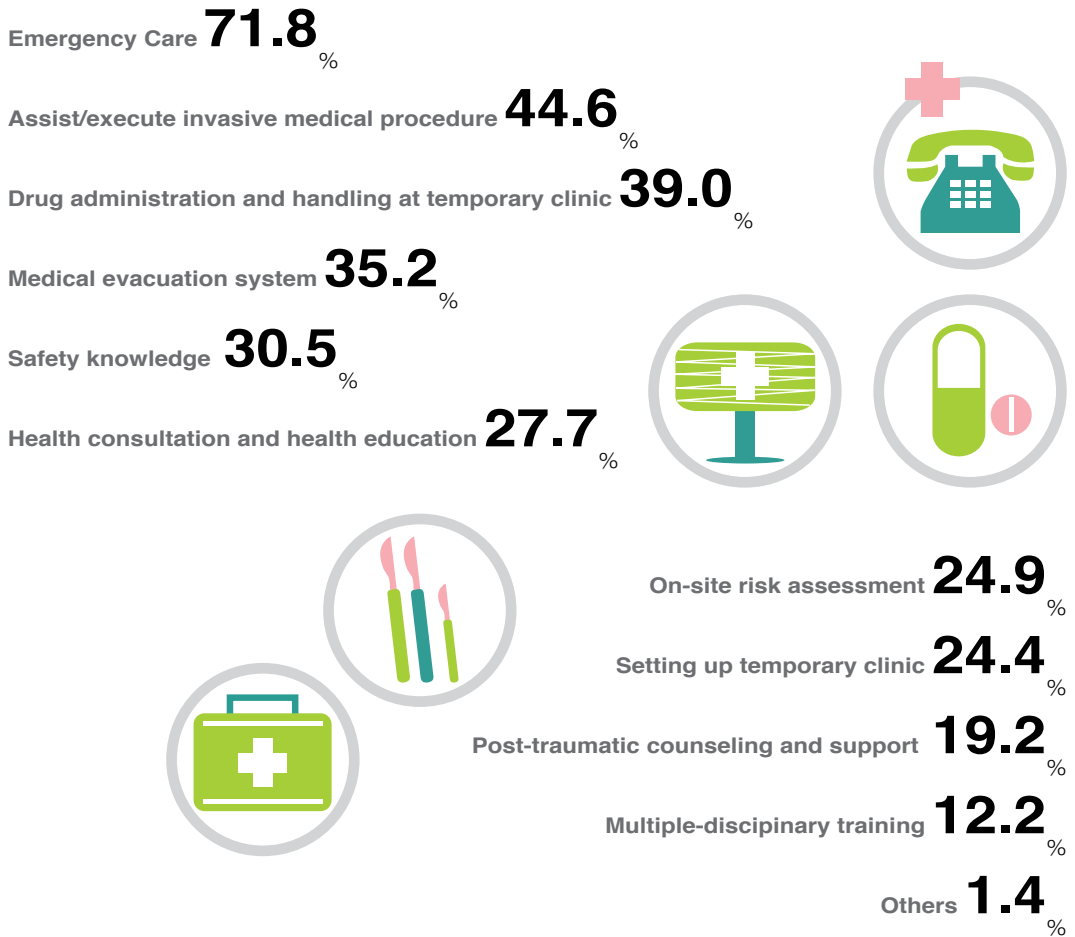
Q3 | Have you participated in disaster care?
(N = 1,540)



The type of disaster care participated:(N = 213, multiple selection)

Gas Explosion/Fire	35.2%	Mass Casualty	62.0%
Flood/Wind	16.9%	Infectious Disease Drill	8.0%
Earthquake	29.1%	Toxic Drug/Gas Hazard	8.5%
Nuclear, Biological, Chemical Hazards	2.3%	Others	1.4%

Q4 | During the disaster care you participated in, which skills were practiced? (N = 213, multiple selection)



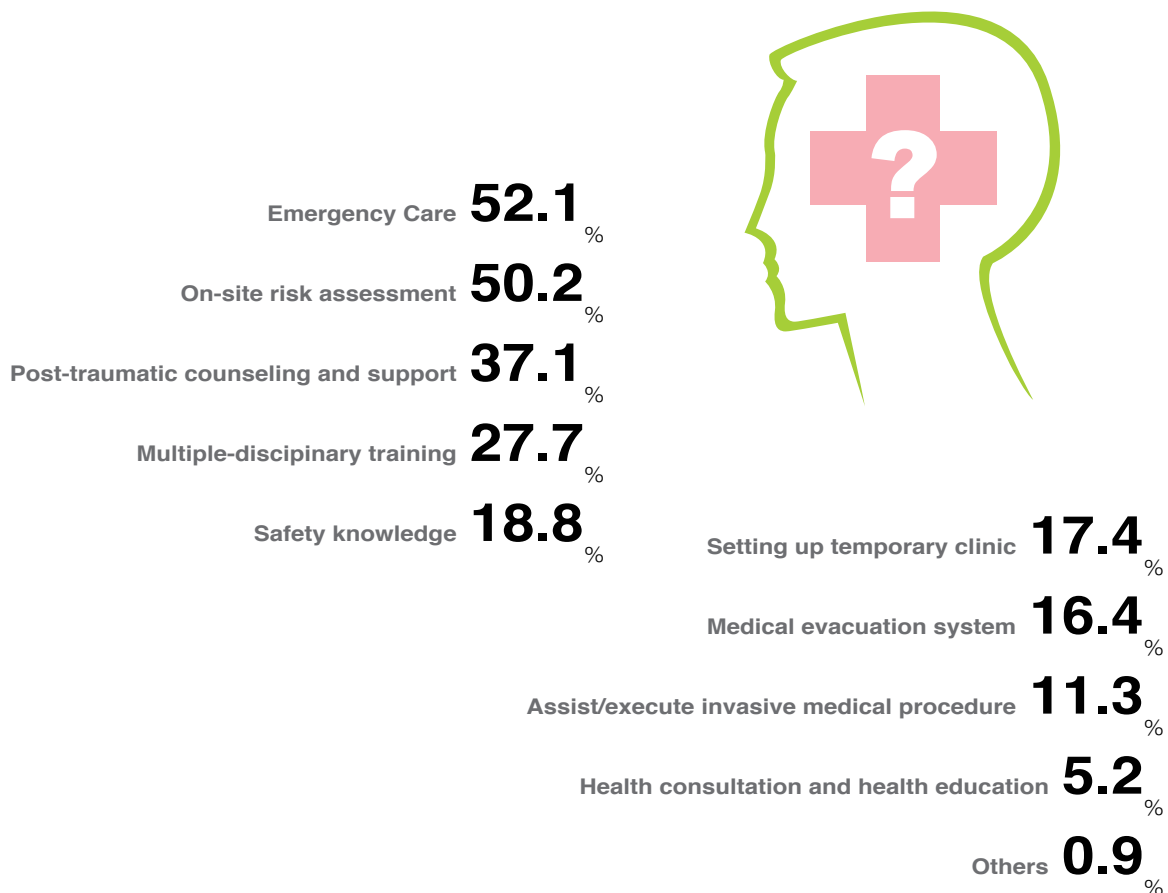
locations of light, medium, and severe injury areas and assigned roles of each staff. Finally, practice with patient-actors in a mass casualty drill that closely resembles a real life scenario. Despite

the annual trainings that simulate potential scenarios, a real life event is the ultimate test that exposes the flaws and vulnerabilities in staff training and response.

Nurses proficient in emergency nursing are veterans in disaster nursing, a field they specialize in. Taking Yonghe fire in September 2014 as an example, patients with darkened face and were gasping for air were transferred to the emergency room shortly after the heads up from the fire department. Although the number of patients did not meet the

minimum requirement for mass casualty incident protocol, our triage nurse Yu-Ting on graveyard shift immediately transport the patients to severe and medium injury area according to the severity of their injuries. The emergency staff on standby proceed to assess and treat the patients with the airway, breathing, circulation, disability,

Q5 | With disaster care experience, what education, training or drills do you think the nursing staff lack or need the most? (N = 213, multiple selection)



exposure (ABCDE) approach, exactly how they were trained.

Help Saving Life Carved the Nursing Profession Meaningful

How do these disaster nursing experienced nurses feel after the incident? The answers were mostly positive, as 64.3% responded “saving lives is meaningful”, 58.7% responded “more appreciative and content with the present”, 41.3% said “humans are truly trivial”, 40.8% said “becoming more hopeful after discovering the ample love in the world”, and 39.0% believed that “to have studied nursing is the best”. While 16.4% of the respondents had acute stress syndrome in the midst of the disaster nursing, and had experienced anxiety, crying, stress, and insomnia.

On July 28, 2015, a mass stabbing spree took place in the Zhongshan Metro Station, Taipei. Emergency nurse Yuan-Ting who was at the scene witnessed several passengers wounded by the attacker. Despite the fear of being harmed, she raised the courage, stopped the bleeding and dressed the wounds of the injured, and evacuated only after all the wounded passengers were escorted off the scene. “Weren’t you scared?” Her colleagues asked her. She responded that the only thing on her mind was that she was a nurse, and nurse cares for the wounded. To help

others with the skills one has acquired is both wonderful and meaningful, she thought in retrospect.

When examining the Formosa Fun Park dust explosion, Taipei Tzu Chi Hospital received 13 severe burn patients immediately after the incident and initiated mass casualty incident protocol. Once the secondary support was activated, hundreds of on-leave staff returned to their post. In two-and-half hours, patient wound dressing, testing, intubation, and transfers to the intensive care unit were completed. The nurses present at the time were inspired by the seamless collaboration of the entire hospital staff and, after all the patients had been transferred to the ICU, volunteered to use their off-hours or vacation time to dress the patients’ wounds. By studying nursing, they had the opportunity to contribute a little to these young survivors in their darkest moments, and that was meaningful, they said.

As for new staff who arrived only last year, caring for severe burn patient with less than a year experience behind their back truly tested their physical and psychological endurance. Fortunately, the department directors and senior nurses were there to provide timely assistance and guidance to the new comers. Everyone in the department would gather together after work to discuss on procedures to improve

Q6 | How do you feel after a disaster care?
(N = 213, multiple selection)

Aid in rescue makes life meaningful **64.3** %
 Content, treasure the moment **58.7** %
 Humans are small **41.3** %



Hopeful for knowing so many generous people out there **40.8** %
 Studying nursing is magnificent **39.0** %
 Have acute pressure syndrome **16.4** %
 Others **0.9** %

or executions to refine. Some of the new nurses were so concerned with these burn patients that they dropped their vacation and returned to work. Two months went by, none of the staff left their post. The incident, instead of breaking us, pulled us closer than ever. We grew stronger as a team. Perhaps the age similarity has prompted the young nurses to think about the impermanence of life.

Rather than a unique skill sets

exclusive to emergency nurses, disaster nursing is a discipline where any nurse could train and be proficient in. From pre-impact, impact to post-impact, the training for each stage of the disaster is open to all nurses who wish to acquire the response capabilities in the wake of disasters. Nurses are humans. It is impossible to trained in every discipline. A little more preparation, though, could very well save a life when disasters strike.

The Strength of Saving a Life

Tsai Fang-Ling, Vice Head Nurse, ER Department, Taipei Tzu Chi Hospital

On February 4, 2015, with a light drizzle outside, a message popped up on my cellphone, “TransAsia Airways departing Songshan Airport heading Kingmen just crashed near the Nangang District and into the Keelung River.” After reading the message, my heart tugged; then I calmly informed the Director of Nursing of the crash in Taipei. We discussed the need for medical personnel to support the rescue operation. Suddenly, the Emergency Department Director, Yiang Giou-Teng, walked into the office, stating Taipei City Health Bureau just telephoned him regarding the Nangang crash, requesting every hospital with a trauma center to send a doctor and a nurse to the scene. Physician, Dr. Li Lin-Qi, was chosen but in need of a nurse. Aside from anything else, I told Director Yiang and our ER Head Nurse that I would go.



Experienced in Emergency Operation, Volunteered to the Crashed Scene

Since I was involved with supporting the Taipei City Health Bureau in large scale activities and my daily work at the ER, I had prepared myself for such necessary emergency rescue operations. I immediately contacted the headquarters to request ambulances. After Director Yiang briefed to the Superintendent Chao of the hospital, he reminded us to report back upon arrival at the crash scene. We were on our way to as soon as the ambulance arrived.



The site was grueling and filled with sadness. After reporting to a control station, Dr. Li and I carried our first aid kits to standby at a designated area. The temperature was cold with light drizzle. However, the coldness of the body was incomparable to the mourning of our hearts. While standing by, I asked the fire department team whether or not there were survivors. They said all the survivors found were immediately sent to nearby hospitals. The time was about noon, and all the rescuers knew they reached a conundrum. The water gate at the site was too narrow for heavy machinery to pass through. We could only operate on man power. Soon after, we heard rescuers yelling the discovery of dead bodies. Military

personnel immediately brought them ashore. We were instructed to have the gurneys ready so the ice cold bodies can be brought ashore. Our first aid kits were completely useless at the moment.

Hospital Staff in Solidarity to Care for a Large Number of Injuries

Already shocked by the Nangang air crash in February 2015, the Formosa Fun Coast Explosion incident happened in late June. All of a sudden, we were racing against time in the emergency rooms. At the time of the explosion, a large number of injured patients flooded the hospital. ER staff rushed in and out working tirelessly. Night shift staff worked overtime to assist the graveyard shift staff. Other nurses came in from their dormitories to help. All hospital managers and directors rushed immediately to the scene to fight alongside with other personnel. No one complained about the fatigue because we care about the victims - their physical and emotional injuries. Love made our hearts stronger in solidarity.

In recent years, many major natural or man-made disasters occurred worldwide, causing countless casualties; emergency personnel were often the first to respond at the scene. To be able to respond and operate in a catastrophic event is an essential capability. Natural disasters are unavoidable; therefore, as an ER worker, I must possess a high degree of vigilance for major challenges during a disaster and a surge in patients. Then respond accordingly in a systematic and organized manner.

The recurrent emergency rescue operations made me understand the impermanence of life. Accidents happen, life is unpredictable. We never know what will happen tomorrow. Those departed due to accidents taught me to seize the moment, cherish the family and friends; and provide those who are suffering to feel the sun and beauty of this world.

As I approach my 15th year working in the ER during the time, facing life and death constantly, I have evolved from a trembling new graduate to now calm medical personnel. People are very vulnerable with illness; meanwhile, the medical staffs are like diligent angels, alleviate their sorrow and pain. When patients cry for help, angels always appear to repel their sorrow, and fill their hearts with warmth and strength.

Take the Scars as a Mark to Restart a New Life

Wen Che-Ya, Registered Nurse of Wound Care, Taipei Tzu Chi Hospital

After ER, all injured patients of the Formosa Fun Coast Explosion were admitted into the intensive care unit (ICU). It was the first time to treat such a large number of burnt patients at the Taipei Tzu Chi Hospital, which at the time did not have a burnt trauma ICU. The ordeal of patients, their families, and the hospital personnel began at this moment.

Department's Immediate Need - Burnt Trauma Education

As a wound care nurse, I have been in contact with patients with wounds so deep that bones can be seen or rotten wounds with pungent stench. However,

when I saw a large number of open wounds resulted from burnt trauma and hearing the cries from patients with unbearable excruciating pain, I was scared. With wounds oozing secretion, blood, and a large amount of epidermis



peeling off, I was helpless to sooth their pain and address the immediate infectious problem because of the open wounds. However, I was grateful to be part of the Tzu Chi family. Two experienced burnt trauma ICU nurses from Hualien Tzu Chi Hospital, Chen Wen-Chun and Wang To-Jung, came to assist us. In addition, many experienced nurses and personnel also arrived one after another. We mobilized our entire workforce to support the incident. At this very moment, other than feeling grateful, I am filled with utmost gratitude.

Established Dressing Unit, Implementing While Learning

With thirteen severely burnt patients requiring wound changes at least twice daily, each session varies as many as a few hours, we need a large number of burnt trauma medical personnel to work 12 to 16 hours daily to complete the difficult yet extensive delicate tasks.

For those medical personnel who lack the skills of helping burnt trauma, the work load is enormous and difficult. In order to provide care and alleviate the workload, a special dressing/wound care unit including staff from various departments is established. Personnel with little ICU or burnt trauma experience, including those who are on vacation, retired or students were called upon to support the dressing/wound care unit.

Everyone knew that Chen Wen-Chun and Wang To-Jung were only here for two weeks. We took the opportunities to learn during their wound care rounds, asking as many questions as we could. We also asked them to demonstrate bedside caring techniques. In a short period of time, the dressing/wound care unit was able to professionally provide adequate care independently in an organized

fashion to assess wounds care, allocate medication, and implement skin grafts and changes. For the unit to be able to handle all these patients, we must be thankful to Chen Wen-Chun and Wang To-Jung, their unselfish love and care for patients.

Agonizing Wound Care and Rehabilitation

Wound care for severely burnt patients was agonizing. Four to five medical personnel were needed to assist one patient. Despite the strong anesthesia, patient could hardly bear the pain and begged tearfully to stop the procedure, crying “help” or “let me die”. It was really hard for us to continue; however, it must be done or the risk of infection later. We could only halt and coerce the patients to cooperate: “We are almost done; just a few more seconds.” Every wound care moment to both patients and medical personnel was a long agonizing moment.

Patients always ask, “Why are the scars so ugly? Will it be the same as before? The scars feel like thousands of ants crawling. It itches so much that I cannot sleep! Why can’t I straighten or bend my hands and legs?” In addition to assuage their fears and remind them to tolerate, we coerce and sometime threaten them to participate in rehabilitation. With the arms or knees stiff, we plead with the patients to bear the pain and stretch some more. If patients don’t have the strength to stand, we massage their elbows or knees to soften the scars. When a patient is able to stand, the entire medical staff breaks out with joy and praises.





Live to Experience Selfless Love

When patients start complaining their sorrow, I say to them up close, “This is an opportunity to begin a new life. You learn to stand, walk, self-feed, and experience love. Every scar is a milestone for a new beginning. Enjoy life and experience life.” In addition to the selfless love from family members, medical personnel everywhere provide selfless love to all patients. One must be grateful to every medical staff that not only care for the patients, but feel for their suffering.

Such young lives are the survivors of the trauma. They survived each removal, cleansing, and skin graft, though rehabilitation is a long and arduous. In the months after the incident, every patient made significant progress and was discharged one after another. Even with our continuous care and love, their physical pain will assuage. However, their emotional recovery is long and albatross, albeit the support of their families. As a result, the medical staff is continuing to provide the heart-warm support to patients and families.



Dust Explosion Burn Care

ER FRONT LINE FOR THE WATER
PARK DUST EXPLOSION HURT ONE

Yang Young-Ting, Emergency Room Registered Nurse, Taipei Tzu Chi Hospital

On June 27, I went to work as usual - punching my time card, changing nurse uniforms, and attending patients in triage and registration. It was a short night-shift. After 9 pm, Director Ho (Ho Yaw-Tsan, emergency medicine dept. director) came and said, "Do you know patients will be coming from the Formosa Fun Coast explosion site?" I said: "I did not hear anything. It might not be true since it is so far away." Soon, a logistic manager in charge of emergency run down announced: "Eight patients are coming in; I just received a phone call from perhaps a Sister's child who said they will come in shortly."

Emergency Alert and Shockwaves

If that was the case, we needed to be prepared. Team leaders Peiqi, Yixuan and I immediately held discussions on preparation, clearing some areas in triage, logistics and supplies, registration procedures to identify patients. We thought there would be few victims with less severe cases. We really couldn't imagine the severity and terrible condition of the victims, or even the quantity of patients.

Superintendent Chao You-Chen, Deputy Superintendent Chang Heng-Chia, and Night Shift Head Nurse Tsai Pi-Chueh all came to the emergency room. It was nerve-racking moment and I was tense and nervous. Although I have been in nursing for quite some time, I haven't encountered such a large number of injured victims, except in drills. I tried to recall all the training details out from memories and to remind myself not to make any mistake.

I hurried out to attend to patient as soon as a vehicle arrived at the emergency room. From the back seats, a mother and her child told me that the patient was from Formosa Fun Coast explosion site. I replied, "OK!" I then opened the passenger door and saw a beautiful girl covered in a wet towel. I asked her, "Can you come out, I can help you?" she said, "I can, but it really hurts!" I gently touched her arm and found a very fragile skin peeling off. I immediately stopped her. "No, you do not get up on your own. " Her father said, "Let me hold you, bear with me, a bed is on the side." I saw her lower body with pieces of skin peeling off. This was the most serious burn I had ever seen since I started working in the hospital. While I was pushing her to emergency room, I could almost hear everyone's thoughts. "It is not a mild or simple red blister case coming from a faraway area." I was scared by what happened but went back to the triage area. I was nervous and tense, and sick in my stomach.

Emergency Triage with Many Injuries – a Test

Tsai Pi-Chueh started dispatching medical staff from upstairs, and broadcast emergency request. Within a very short time, staff started to appear in the emergency area and standing-by; some began to unbox burnt medicine while others locate medical supplies. Then came the general broadcast: “Two patients coming - a mild and a severe case...” I heard what was said and then an ambulance arrived. They were young people with burns all over their bodies. When I ushered them to the emergency room, I thought, “They are all serious cases, nothing close to being mild.”

Ambulances arrived one after another. In less than 10 minutes, the triage area was full of patients with serious degrees of burn, lying desperately in bed. I attended to them quickly, assigning each patient to a team of two therapists, two physicians for immediate treatment. More medical staff arrived in a short time, many of them came to me for assignments; but I had no clue as to how many more will arrive...

While I was busy triaging, I saw volunteers who said goodbye to me earlier came back at 11 pm. They assisted to locate painkillers, antibiotics, contact patients’ families, or to help families find their patients. Many patients’ family members voluntarily helped push the beds and keep the pathway clear. Regular emergency patients were patient for their turns because they knew the patients in front of them were really severe. Of course, there were some patients who feel they should be treated urgently reminded us to hurry.

Saving Lives Regardless of Who You Are

When a coworker of the long night-shift took over the triage, I immediately went to the examination room to help. I saw personnel from different departments including neurology, pediatrics, and surgery helping to administer CVP, or asking about what they could do to help, and every ward nurse helping to administer injections or applying burn ointment.

I couldn’t forget the face of each patient coming through triage; I saw fear in their eyes, expression of deep sorrow, severely damaged body and their cries for suffering. Even today, the picture is still fresh.

That night, all hospitals were full of the burn patients; I think every medical personnel couldn't forget it. I felt my heart was especially heavy after experiencing the night.

Really, for the first time encountering a large number of injuries, I couldn't think straight. Fortunately, I had made preparation in logistics and scheduling of human resources beforehand. It would be so easy to make mistakes because of a sudden burst of patients with urgency for the first time. During the night, all our clinical colleagues showed their enthusiasm and energy. It was the first time to feel unified in our hospital, and the Tzu Chi brothers and sisters worked together as one. Thanks to all my colleagues in other departments who came to assist in the emergencies. I am really thankful, and with deep gratitude.





BREATH

TAKING NIGHT IN ER AT TAIPEI TZU CHI HOSPITAL

Fang Pei-Yu, Emergency Room Registered Nurse, Taipei Tzu Chi Hospital

Around 10 pm that evening (June 27, 2015), I was on duty for an evening shift in the ER. TV in the waiting room was broadcasting breaking news about the explosion at the Formosa Fun Coast. Meanwhile, I heard the conversation between the fire department and hospital personnel. At the same time, the clerk from ER was asking the nursing unit to answer the phone on line six, the head nurse was helping patient, so I voluntarily answered the phone. I heard a commotion from the other end of the telephone line.

“Senior, I am from xxx Ambulance Company. There are many people wounded in this exploration. The nearby hospitals are filled to capacity. We are sending victims to Hsin Tien hospital. Please make the necessary preparation to admit patients.”

“How many wounded people are still there?”

“We are not sure, but there are probably still a couple of hundred people wounded. It is pretty chaotic here, so I want to call you first.”

“Ok, I understand.”

Attending a Huge Number of Victims

After hanging up the phone, I reported to my immediate supervisor. Then we spread the news to doctors, nurses, and colleagues. My instinct was a series of questions: “It has been a while since the explosion, are there really so many patients? Will they really be brought here?”

There were so many questions in my mind; colleagues were also discussing how to handle this situation. Thus, when a phone call informed us that many wounded would come to the hospital themselves; we were ready. As an emergency nurse myself, I was very anxious and standing by the door waiting for the patients’ arrival. I have been as an emergency nurse for four years and experienced many ER triage to save lives, but have never thought that one day I would be facing so many patients in Taipei.

The first patient arrived, and was quickly seen by a doctor who ordered an IV. I asked, “How should I do the insertion for IV when this patient is wounded all over the whole body?”





Everyone was busy, such as cleansing, changing medicine, and comforting patients. At the same time, the head nurse asked if we had enough resources to attend to patients. Our team leader said, “Not enough! Not enough!” Thus, the head nurse raised the emergency alert to level 9. After we took care of the first patient, the second one arrived, and then third one. The emergency room was quickly filled with four patients in less than 5 minutes. Patients were being attended one-to-one in the emergency room; I didn’t leave the emergency room from that moment.

The challenges of Taking Care of Burn Patients

When I was faced with a patient, I recall from memories how to care for burned patients. For example, when applying oxygen, I used one with mist to avoid causing dryness and therefore discomfort to the respiratory tract. I first injected patient with IV, then to avoid dehydration, etc. Suddenly I wish I was the thousand-hand bodhisattva, so I could do many tasks at the same time. While I was struggling, the first reinforcement team came to our rescue; they are from the internal medicine unit. They yelled, “We are

here to help, just tell us what to do.” It was so wonderful that they helped to hook up IVs, and changed the medication. At the same time, Doctor Hu Ya-Hui from Metabolism section came into the room and gave us a hand. During the process, she kept on saying with tears in her eyes, “They are all so young!”

Then came in another patient, a nurse yelled, “Prepare Endo (endotracheal tube)!” Then we saw a person burned to charcoal black and the whole body without skin. We tried to find a spot to inject IV, doctors suggested intubating immediately. Thus, we increased the pressure to the IV little by little to administer the medicine. With the assistance of anesthesiologist and other nurses, we were able to apply medication as well as intubating to stabilize the patient’s vital signs temporarily.

Chaos to Calm

Finally, with the assistance of colleagues from emergency room, my first patient was transferred to the Intensive Care Unit (ICU). It was almost midnight. I rushed back to the emergency room and found the area chaotic. Section B was filled with burn patients. Every one of them had more than 40% burn. Those who came to help from other units were struggling. The painful cries from patients were everywhere, some had their swimming rings on, the floor was flooded with water, and medical supplies scattered everywhere. I joined the team with doctors and nurses and helped finding things and preparing the material. The emergency room was like hell at the moment.

With the help of many volunteers who arrived in doves, the atmosphere became calmer. It was around 12:30 am, the chaos was finally over. Patients were transferred and taken over by the ICU teams. The emergency room was quiet again as if nothing had happened.

Twelve days later, a patient passed away. Dr. Wang said, “The medical book states if a patient suffers 90% burn and can still talk, do not intubate. We must give patient and family members some time, and let them talk and say good bye.” This patient was the one who was intubated in the emergency room. I felt so sad about the patient’s passing. I wish there would be no more casualties and wish these patients would be able to go home healthy. There will be a long way to go for full recovery. I was not only at the front line with these patients, my heart constantly prayed for their full recovery.



RESTLESS SUPPLY CENTER

Lin Li-Hua, Head Nurse of Supply Center, Taipei Tzu Chi Hospital

After the Formosa Fun Coast Explosion, the usual supply line (Supply Center) also mobilized alongside the front line staff. Their first task every morning was to contact Intensive Care Unit (ICU) to estimate the need of treatment towels and various sizes of sterile gauze for the daily consumption; to be delivered to each floor for immediate wounds care. Since the explosion occurred unexpectedly, every supply center requested transfer from various hospitals in order to meet the surge in demand. During that time, every day seemed like a battle, for fear of inadequate quantity of dressing materials for use at the ICU. Fortunately, within a week, the requested quantity arrived. When my colleagues and I looked at the piles of sterile dressings, we felt a sigh of relief!

The morning of the second week after the incident, a large order of Betadine gauze was placed because of a change from management. Upon receiving the order, everyone was stressed because of the ongoing shortage of necessary supplies. With



the exception of artificial skins and the hydro fiber dressings which are mass produced, the Betadine gauze is painstaking and time consuming to make. The gauze has to be dressed manually to apply a layer of Betadine ointment. The entire department was hectic that day. Immediately, we procured large quantity of gauze from the warehouse, and secured large containers to hold all the gauze. Our colleagues were dispersed to locate suitable stainless steel containers from local hardware stores prior to duty.



After solving an immediate problem, what about tomorrow? Wound care is continuous nonstop. Although we purchased many large containers, we still fear the unknown. That same night, we started planning by testing different sizes and shapes of Betadine gauze, running simulation for wounds care. We even tried the Betadine gauze on each other to ensure the appropriate ointment quantity for the dressing.

By the time I was home to finish a shower, it was already 11:30 PM. I still worried whether we would have enough quantity of Betadine gauze. Because we purchased all the appropriate containers from local hardware stores, my family suggested we go



to nearby 24 hour supermarkets. I immediately jump on it and purchased additional containers. By the time I went to bed, it was already 1AM. In a few hours, I had to report to duty; however, I felt at ease and could finally sleep peacefully.

Recalling my past experience in post plastic surgery care and accompanying patients for recovery, this particular experience touched me the most. The accident led to a large amount of patients simultaneously in need of treatment. Regardless of people in the forefront or the supply line, I saw the efforts of all interdisciplinary teams to provide the best effective medical care. I pray for speedy recovery of all the patients.

DON'T BE AFRAID, YOU ARE NOT ALONE

Hung Chiao-Rue, Registered Nurse, Surgical ICU, Taipei Tzu Chi Hospital
Translated by: Doris Shieh



Three days after the Formosa Fun Coast Explosion, my sons, who usually take forever to get ready for school, suddenly were sweet and obedient before I left for work that day. They said not to worry about them. They would get themselves ready for school so I could get to work to care for the victims of the accident. They seemed so selfless and all grown up that day.

Although I have cared for burned patients in the past but I never had to deal with so many burned victims all at once. At the beginning, I was not sure where to start. My heart felt heavy when I was listening to my colleagues during a shift change. We worked together to change the dressing. From the last dressing change, the wounds were still bloody in appearance but this time her limbs seemed pale. We asked the patient if she was in pain. She didn't even make a sound. A thought flashed across my mind: This patient might be suffering from "acute compartment syndrome" and might need urgent fasciotomy! She cried in pain when their fascia had to be cut open to relieve the pressure to bring back circulation in the region. Even though she had been given a large dose of pain medication, my heart ached when I saw her tossing in bed, protesting about the pain. As I was cleaning the open wounds, all I could do was to remind her: "It will only take a few seconds. This will keep the wounds from infection."

During visiting hours, most patients put up a happy face and tried to be strong in front of their families. One said, "The nurses at the ICU take good care of me. I have been a good patient and I am fine now. Please don't worry." These young adults exhibited such strong characters that touched everyone's heart.

While caring for their wounds, some patients started to describe the event on the day of the explosion. As they recalled the event, their bodies and mouth shivered and tears started to flow down their faces. They were afraid that that they would die at that moment. Some regretted lying to their parents about attending the event. Some felt ashamed. All I could do to ease their fear was to tell them not to look back but to focus on getting rest, eating nutritious meals and keeping up with the basic physical activities so they can have a speedy recovery. That was the only way to pay back their parents.

One time, I ran into a patient's mother as I was getting ready for my shift. Just as I was thinking about the coincidence that she was my patient for the day's shift,



and how I would try to encourage her, I saw a group of nursing staff in her room surrounded by many medical instruments. My heart sank. When I saw her face, I was shocked to see the rapid deterioration of her condition. How could this be? A couple of days ago she was still talking to me. I felt helpless at the moment but quickly realized that I am a nurse, not her family member. I must act professionally to save her. However, the minute I started working on her, I could no longer hold back my tears. I couldn't hold myself together if she was my daughter, knowing that her family was waiting outside, concerned and anxious. Finally, the attending physician explained her condition and nurses and volunteers helped ease their fear and calm their nerves.

All the explosion victims are young but had to withstand tremendous emotional pressure from this incident. They were sad, hurt and frightened. I told them: "You are not alone. Your nursing staff will be right by your side." Their courage is admirable. I know that they will be able to get through all the complications in wound debridement and rehabilitation and be on the road to recovery.



IT'S MY LUCK TO TAKE CARE OF THE NEEDY

**Hsu Shu-Chuan, Head Nurse, Operation Room Department,
Taipei Tzu Chi Hospital**

On June 28, 2015, I was on duty that Sunday. At 7:40 am, my cell phone rang and Night Shift Vice Head Nurse Meijuan, said to me, "Please come to the International Meeting Room." As I arrived at the hospital, I learned many seriously burnt victims from the explosion incident were admitted and volunteers had been accompanying victims and families. Superintendent Chao had prepared apples to volunteers after the morning sutra session, to bless them with health and peace. I felt the warmth of Tzu Chi volunteers who had given us the support when that was most needed.

At 8:20 am, Chief Secretary Ms. Chiao, Deputy Supt. Chang Heng-Chia and I went to visit the victims. I was dismayed to find the names of many young victims from 17 to 27 on the roster. These young teenagers are at their early adulthood, but have to

deal with the consequences that changed their lives. It seems like they are destined to walk the long path as it flashes in my mind. I prayed for them to recover: “You are our hopes of the future, may you recover fully.”

At the intensive care units, I heard cries of pain and suffering where many victims were being administered with pain killers. There was one lying awfully quiet without a word since admission. Worried nurses described to me that this patient works at the military. I felt like I wanted to talk to him to sooth his fear.

The day after the incident, many third parties including representatives from the government health departments, local authorities, personnel from Formosa Fun Park office, the news media, and patients’ friends and families arrived accordingly at the hospital. At 6 pm, the waiting room was packed with concerned individuals. A “Family Care Booth” was set up by the hospital in the waiting area to provide needed care and support, along with hot tea and meals to warm their hearts and to demonstrate our commitment to care for their families.



On June 30, 2015, I received a request from plastic surgeon Lu that starting July 1st, two operating rooms were needed daily for skin grafts on twelve patients. I coordinated with my vice head nurse Pei-Santo collaborate logistics and materials. All the available team members were mobilized to prepare for the tasks. A mobile burn unit equipped with necessary supplies was assembled to shorten the time required for skin grafts in between patients.



During operations, the air-conditioning in the operation room was tuned off to ensure patients who lost the ability to adjust to surrounding temperature due to skin damage could survive the procedures. As a result, the operating team was sweating during the entire operation. Facing the situation, operating surgeon Lu Chun-Te, Director of Plastic Surgery, thought his sweating was nothing compared to patients' skin burn. The operation team had successfully performed every skin graft procedures for victims.

On July 11th, 2015, when I made the rounds with Doctor Wang, we found increasing patients' smiles and confidence. It was a miracle after twelve continuous days of treatment and care. At the beginning, some patients asked to be transferred but their family members insisted to stay with Tzu Chi hospital; their decisions were proved to be correct in hind sight.

Many of my friends and family, including my spouse, worried about my health during the ordeal. Even though it was hard work, I feel like I am fortunate to give them all I have - a simple thought to help others.



MY BRAVE NEW FRIENDS

Lin Shao, Registered Nurse, Surgical ICU, Taipei Tzu Chi Hospital

I was working afternoon shift that day (June 27, 2015) and ready to hand over duties to the next shift after a productive day when the hospital intercom blared: “ER Red 9! ER Red 9!” I had hardly ever heard of this code in my one-year working here. A senior staff told us a large number of injured victims arrived. That night, I witnessed the power of team effort between doctors and nurses at every departmental level. The chaos was finally quelled, but the real challenge was about to begin.

The victims were all about my age. It was an ordeal for the necessary care. Our every move must be filled with tender loving care. When I started working in the burn unit, all of a sudden I didn’t even know how to dispense medication for fear of hurting them. Changing dressings was the most dreadful: the size of the wounds, the medication on the dressings that I had never known, and the painful cries. We kept

saying, "It's not going to hurt, it'll take just a minute," while cleansing the wounds with a brave heart. It took about an hour to change dressings. At the beginning even senior nurses had to work overtime. I was overwhelmed and questioned myself if I was competent in the nursing field.

However, all the sweats and tears were paid off when the patients gradually recovered and endeavored to make their first bold step to recovery. They are not a part of my friends and families circle, but their brave attempts to stand on their feet and to feed themselves with the stiff fingers, arms and legs moved me to tears. As we acquainted with each other, we became friends or even family. Although the blast brought tragedy, it offered us a glimpse of genuine friendship.



The families and friends of the burn victims made a bulletin of gratitude to the medical staff of Taipei Tzu Chi Hospital.



VOLUNTEERS ARE EVERYWHERE FOR THE BURN PATIENTS AND THEIR FAMILIES

**Yu Tsui-Tsui, Registered Nurse, Organ Transplantation and
Coordination Team, Taipei Tzu Chi Hospital**

“Come over please, Nursing attendants, the milk tea is ready for you. Please bring over your cups please.” “If you would like other drinks, just tell me, I can bring from the Jing Si Hall next door.”

A week after the water park explosion, in the busy hospital filled with victims from the disaster, “Yi-de” moms prepared drinks for those whose jobs would be challenging in the next coming days and months. Near lunch hour, they came out with a variety of delicious meals including fruits, frying noodles, and pot stickers. Those nutritious hot meals are different every day for the sake of replenishing body vitamins.

Inside the burn victims area, a volunteer reminds visitors to done the victims protective garments, completed with shower cap and shoes cover, and the hand



cleansing germs killer. Thanks to the volunteers making sure the important steps are carried out for the more than a hundred daily visitors.

Outside the intensive care unit, volunteers are divided into two groups. The outer group works with social workers to accompany victims' families. The supply food and drinks to the waiting family members. The inner group works with multimedia team and nursing personnel to support patients and families. They are further divided into four groups. One group is busing helping patients with difficulties moving, and feeding themselves. Another group helps connect patients with their families at the waiting room through video conferencing via iPad. Every exchange is filled with tears and laughters since reunion with loved ones is the most unforgettable moments.

The sudden water park incident was historic to the medical staff in terms of challenges and scale. We are lucky to have the support of Tzu Chi and the volunteers, including Yi-de parents, who take care of our daily lives, and more importantly, accompanying the patients till they recover.

BEING SAFE IS BLISS

Lin Yu-Ching, Operating Room Registered Nurse, Taipei Tzu Chi Hospital

In carrying out a debridement skin graft surgery, a long stretch in time will risk a massively burned patient the loss of blood and drop of body temperature due to a large open wound area. Therefore, this kind of operation usually takes two to three times the personnel more than a normal operation. However, the more people huddle around the operating table, the more tasks to be performed from the perspective of a mobile care division nurse. At that moment I wish I was a centipede with many hands and legs, working on never ending tasks, filling warm water bottles and dispensing medical supplies. During the operation, many calls were made request blood, transfusion, and the entire process repeats itself again and again...

To make matters worse, the operating room air conditioning was turned off because the optimal temperature needed to be higher than regular room temperature, which made everyone in the operating room soaked in sweat – hot and



exhausted. Exhaustion is secondary, but the fear of potential contamination from perspiration is paramount. Nurses helped wiping the sweat off, and attaching special ice-pack for attending physicians. After the operation, we often have a feeling of fatigue; with tired legs trained like the “iron legs” every day, so busy that there is no time for water break or use the rest room, it really was an effective aerobic exercise!

When thinking of the pain of the patients, we are fortunate to be able to help so the tasks do not look difficult. No wonder Tzu Chi volunteers do not say hard, they just say joyfulness. Since we can all work hard, it means another kind of joyfulness - a blessing, laboring hard to help people is a blessing.

Recently, the patients under my care are improving slowly. Several critical patients, one by one, were out of the intensive care unit, and some patients had been discharged. My heart is really happy for them, but the rest of the rehabilitation of the road is a long process. Be strong! You are still young; you will be able to make it.



P OSITIVITY INSPIRES MORALE

Wu Chiu-Feng, Director of Nursing Department, Taipei Tzu Chi Hospital

In the times when the entire hospital was mobilized to attend to the dust explosion victims, I practically report straight to the burn ward when arrive at work, share the hectic workload so the staff could remain undistracted. I once emptied a patient's urine bag when I noticed the bag was closed to full, and the nurse, who noticed my action, quickly responded: "Director! You shouldn't be doing this, let me handle it!"

I am, indeed, a director. However, I never believe that there is a task too low for a director to handle. I was truly impressed by how devoted everyone was in a dire time of need. Since I am not a person who is accustomed to hugging or solacing, I put my sentiments into action, ensuring that all of the nurses could focus solely on the work at hand without any distraction.

As our staff and resources were redirected to saving the victims of June 27 2015 dust explosion, we could not ignore other patients in the hospital. How many staff would



I need, I thought to myself, and how many? From where? It would best that they are matured, experienced seniors who are willing. Patience is undoubtedly a prerequisite to manage a surge of trauma patients of this scale.

After a brief discussion with my supervisor, we convened with all head nurses to discuss potential candidates. The head nurses were cooperative and proposed a list of candidates from various departments who are experienced in burn treatment. We then selected 8 out of the list and divided these senior nurses into two burn dressing teams. Considering the high staff demands, I attempted to recruit more willing staff to join the team.

As I sent an email to request for more assistance, the overwhelming responses were certainly inspirational. "Director, schedule my shift however you see fit," one mail wrote. "Do you have sufficient staff for burn dressing? My wife can help," another mail asked. It turned out that the sender, a doctor, has a wife who was a nurse and was eager to help. There were several staff planning on leaving the job postponed their resignation.

The number of nurses reported in every day far exceeded the numbers we had originally scheduled. When I check on the ward, many nurses who were not on shift were present. “Why are you here,” I asked them. “We are here to see what we can do to help,” they answered. Some came back during off-hours, claiming that they could not sleep while their colleagues were overwhelmed.

The head nurses encouraged the nurses to support and learn about burn care, knowing that once the patients transfer to general ward, everyone has to be capable of nursing burn patients. “We build a positive patient-nurse relationship while assisting, making the transition easier.”

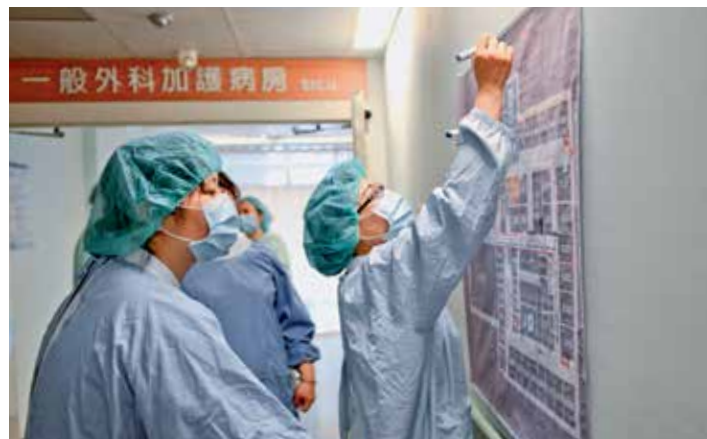
Fortunately, members of Tzu Chi medical and educational missions volunteered to share our burden. The family like support was heartwarming. Why would people from all over eager to offer their assistance? They want to lessen the suffering of the patients, and the burden of the medical staff, by contributing their time and expertise. That is why I always consider myself fortunate, to have such a great team, working in perfect sync in the face of major accident. I have no idea where the strength comes from, I





only know that everyone, including the head nurses, came without orders, sacrificing their vacations and time with family, just like sisters. This heartwarming positivity certainly raised the morale of the entire team.

Burn ward is quite different than other hospital wards, so when I saw a cleaning lady confused as to how to proceed, I showed her by cleaning the ward myself. She seemed moved, but so was I. Everyone treated these patients like a family, including the cleaning ladies.



Frankly speaking, it was tough, but rewarding. The accident awakened a potential within our team no one ever expected, to handle such a major emergency in such a short time. The emotional rollercoaster was certainly exhausting, as we were so attached to the patients' conditions.

Now that the young patients were discharged one by one, we could finally take a rest. We will still be there during their rehabilitation, hoping these youths can walk bravely into their future.



NURSING SPIRITS SHINE IN THE CARE OF THE **BURN PATIENTS**

Hsieh Mei-Lin, Assistant Professor, Nursing Dept., Tzu Chi University
Peng Tai-Chu, Professor, Nursing Dept., Tzu Chi University

The ninth day after the dust explosion accident, I departed from Hualien and arrived at the Taipei Tzu Chi Hospital. I am committed to attend to the burn victims simply because I am a teacher of nursing whose job is primarily to train new medical nurses. A lot of experienced care is needed for the front line nurses, and many medical staff throughout the country participated in the disaster relief and patients' care.

Whatever I Can Help

In the beginning, I was worried if my presence would cause inconvenience to the hospital. But when I thought of the disaster, I knew I would be valuable as long as I am willing to serve others.

After arriving at the hospital, Liao Ru-Wen, Vice Nursing Director took us to the Intensive Care Unit (ICU). As soon as Head Nurse Kang Fang-Yu introduced us to the environment and patients, Yu-Wu, a student of mine, a Tzu Chi University graduate, came to greet us.

“Teacher, I was about to start the treatment but was told that you are here so I came over. I am deeply touched to see you here!” Tears were rolling down her cheek before she completed the sentence. For the past week, the front line staff did their best to save patients and to minimize casualties. It was the first time for many of the staff to attend burned victims. Under tremendous pressure, they didn’t have time to vent their emotion for which I feel really sorry. ICU Nurse Han Xian, a graduate from our department, spoke of that day when every hospital staff was mobilized for the emergency.



Burn patients are rarely seen in the hospital; therefore many staff personnel have limited experience in that aspect. However, several experienced nurses of the Hualien Tzu Chi Hospital unexpectedly arrived in Taipei to join the rescue effort. Under the leadership of Director Chang Shu-Chuan of Hualien Tzu Chi Hospital, several former nurses also returned to collaborate with the caring teammates.

Sharing Experiences in Attending Burned Patients

Nurse Wang To-Jung of Hualien Tzu Chi Hospital had years of experiences in treating burn patients. Collecting and sorting her patients' relevant data based on the size and severity of the burned areas, she joined the medical team to discuss the most appropriate way of nursing in this situation. She not only undertook the role of being a team leader changing dressings for patients but also provided guidance for the front line nurses how to look after patients. During the shift-changing periods, she held daily meeting with team members to discuss the progress of his/her wounds case by case and reminded them of the do's and don'ts while changing dressings. At the end, she would review its process and looked for room to be improved. Whatever issues in



question exist would be clarified on the spot. In addition, Ms. Wang also instructed them the correct usage of isolated gear, some precautions of sterility, along with customized Standard Operation Procedure (SOP) card of changing bandages for other colleagues' reference.

Through this disaster, I saw the selfless professionalism while a senior alumna was leading her alumni in caring the injured. The SOP had been updated through many discussions so that the primary care nurses could master the patient's care, be in charge of changing dressings, and observe each patient's wounds and progress. What was more important was to implement the concept of sterility to prevent wound infections caused by human factor. In spite of the venues of the Tzu chi hospitals, I am very impressed by how Tzu Chi's colleagues were held together.

Determined Will and Nursing Care

In the surrounding area of the Burn Unit, the medical staff in isolated gear was busy shuttling back and forth in the hallway; some of the wounded wrapped with surgical dressings and green sterile sheets could hardly be recognized due to their swollen faces. Upon hearing the painful groaning of her patient, a nurse continually comforted him, "I'm sorry, I know you are in pain. It will be over soon, please be patient." In the past, one of my burned patients once told me that the dressing change is comparable to "an execution of capital punishment", because most patients were conscious while going through the process. Even with the injection of painkiller, it did not completely rid patients the sense of painfulness. Therefore, some patients were scared at the thought of dressings' change, which even sent a shudder of fear through their whole bodies. When it was the second turn of the day to change dressings, it required the medical team cooperation, ranging from preparing the medication and accessories, unpicking wounds, helping patients elevate their limbs, spreading out sterile sheets, cleansing wounds, applying ointment, covering them with surgical dressings, rolling them over, etc. It took at least three to four staff members to complete the procedure. The medication, medical equipment and appliances, surgical gowns and bed sheets made considerable demand on its expenditures. Changing dressings starts at the beginning of morning shift, and till past lunch time by the time when all is done. In addition to dressings' change, nurses had to perform their regular duties including dispensing medicines. Everyone was so tied up with their

assignments that it was difficult for them to find time to use the bathroom or take a lunch break. Day-shift colleagues start their duty at seven am in the morning till eight or nine pm in the evening. Afterwards, colleagues get together eating their cold lunch boxes and discussing on how to improve their services.

Cheering for Patients

During those days, in addition to changing dressings, replenishing medical equipment and appliances, and preparing for the demand of sterile gloves and sterile bandages, we also provided psychological support at bedside to the wounded. Shau-Tzu (a pseudonym), aged 18, a nursing student, impressed me the most among all. After completing the internship, she and other students participated in this event. She recalled at the time of the accident scene, “It was approaching ten o’clock in the evening; the event was coming to an end, it was dark everywhere. All of a sudden, I saw sparks in a distance and I assumed they were special effects specially arranged by the organizer; until someone began to shout. I then realized that something bad had gone wrong. I ran away from the fire scene. It was so crowded that I could not run but squatted on the ground. Later on, I was carried to a place nearby water. At that time, I felt as if my feet had been trampling on the burnt ashes. I had to run for life. Screaming and crying continuously, a lot of people jostled, ran down or fell on the sizzling ground. A thought flashed through my mind, ‘This is it, what will happen to my mother?’” She added, “The local residents and the uninjured came to offer me their assistance which warmed my heart. I was still in shock upon arrival at the hospital. I lost my bag and phone; fortunately, someone helped me contact my parents.” Shau-Tzu mentioned she was thirsty. Before she fell into sleep, she drank some water with assistance. After leaving her room, I could not help but constantly recall my conversation with her. The discomforting feeling of my aching heart was beyond description which did not dissipate for quite a while.

We Are Proud of Our Students

For the last few days in the hospital in Taipei, I came across many graduated students whom I had taught. They all took the initiative to greet me which touched my heart. Seeing my students’ outstanding performance in clinical care, I am honored to be their teacher as well. Nevertheless, nursing students have to study a lot from fundamental to advanced nursing, which testifies the teachers’ capabilities in professional theories



combined with the clinical practices. Moreover, it is essential that every registered nurse be capable of caring for patients under the umbrella of nursing science. The teachers thus play an important role in enlightening nursing education.

Being involved in this caring experience, I realize the importance of nursing technology and theoretical teaching. It reflects how well the nursing staffs are educated from setting up the sterile ward, putting on and removing sterile isolated gears, abiding by the rules of changing dressings, and binding up bandages. Nursing staffs can be adept in various techniques as long as the technical operations of sterility are followed thoroughly in face of different types of injuries.

Burn patients will be facing the lengthy process of medical and rehabilitation treatments in the future. The greatest strength for them to overcome the obstacles depends on the encouragement of family members, relatives and friends. Our mission and responsibilities are to provide the best first line nursing care team and company. Let's keep it up!



TWO WEEKS OF LIFE-SAVING AND BURN CARE EDUCATION

Wang To-Jung, Surgical ICU Registered Nurse, Hualien Tzu Chi Hospital

When I saw the news of the dust explosion on T.V., my heart sank. The strong sentiment came partly because I am a nurse. The day after the incident, around 5pm, I received a call from the head nurse that Taipei Tzu Chi Hospital need immediate backup, and that I should take the 6pm train, accompanied by Nurse Chen Wen-Chun. Without giving it much thought, I said yes right away.

My mission, in addition to providing clinical support, also includes on-site education. With only an hour to pack, I was fortunate to have the full and timely support from my Surgical ICU colleagues, who prepared all relevant items, as well as my flash drive containing vital data, and with additional burn care material added at the last minute. When Wen-Chun and I rushed to the train station, my colleagues had already arrived and await us with everything I need. It was thanks that we made it to Taipei in time and well-prepared.

No Time for Grief, Only for Expertise

For Taipei Tzu Chi Hospital, the situation was rather concerning—12 out of the 30 beds in the trauma burn ICU were patients admitted on the very same day, which created an overwhelming loading that is equally strenuous for us, if not more so, should the same amount of patients be admitted to Hualien Tzu Chi Hospital. Therefore despite having burn care experience, Wen-Chun and I had to spent crazy amount of time working, wound dressing in particular. We usually start working at 8am and wrap up around 10 to 11pm.

During our first week as support, I never breathed one gulp of air outside the hospital, as all of my time was spent inside hospital wards. Most of us were too occupied to eat. “Aren’t you scared with you see those wounds,” some asked. My nursing experience had prepared me for what was coming, and the fact that I am still a surgical nurse certainly answered the question. But surely, not scared does not equate with indifference.



As soon as they arrive in Taipei, Wang To-Jung and Chen Wen-Chun immediately joined the frontline staff to dress the patients' wounds.

I was well aware how devastating emotions are and how much of a burden it can be. How can we have the clarity and astuteness to care for your wound while feeling sad and depressed, or to observe your urine output, heart rate, and wound conditions with teary eyes? I had to carefully study and assess patients' wound conditions, make the right decisions, and educate others all at the same time. The best I could do was to stay strong, making certain that every patient, and their wounds, receive the best care possible.

Clarity and rationality came from years of experience. I am not indifferent. Working with emotions can lead to mounting stress. When dressing the wounds of these burn patients, for example, I had to endure their screams and cries, complete the tasks with surgical precision, while chatting with them, comforting them, provoking them, or even scolding them, trying every single method as long as it calms them down. Yes, I knew it was cruel. When patients plead to me, I had to reply in a cold voice, "this is only the beginning, the pain will only grow worse! If you do not learn now, how can you make it past today, tomorrow, or the day after that? If we don't prepare you psychologically, you will not be able to survive the future. So what is it going to be?"

So, 12 beds, 12 patients, 12 voices screaming in pain. They were in torment, we were having it easy either, but timely words of encouragement remained crucial each step of the way.



Finally the wound dressing is over,
it is time to organize the material while teaching.

Racing Against Time, Every Second Counts

The truth is, all major hospitals are understaffed. When half the ward is flooded with new patients, the impact on medical staff is consequential, adding additional burden onto already-strained staff. Taipei Tzu Chi Hospital was commendable in at least two regards: first, receiving trauma burn patients when there were no burn wards available; and second, the necessary preparations were organized in a short amount of time, including centralizing burn patients, setting up medical equipments, and providing essential materials.

When we first arrived on the scene, there was no time to teach. We went straight into clinical work, wound dressing primarily, to relieve some of the mounting pressure, and weave the teachings in-between when the situation stabilizes. The training of a burn nurse takes not hours, days or weeks, to pass on our training and knowledge using those little pockets of time was an impossible task. The arrow, though, was no longer on the bow string, but flying in midair. We do what we can.

I was aware of how nerve-wracking everyone was, having us watching them closely while occupied with mountains of tasks, instructing them to do this and that. Our roles weren't lovable to begin with, but it was impossible for me, under those conditions, to instruct them with a gentle, pleasant voice, "come, let me show you, change the gauze like this, don't worry, there's nothing to be afraid of..." There was no time! You can teach slowly in a classroom, not on-site! Our patients were lying right in front of us, wounds exposed, shivering in excruciating pain, waiting to have their wounds dressed!

Another predicament we faced was the large but unstable group of supporting nurses, which forced us to teach from scratch again and again. Our strategy had to change.

Teaching Both Teams at the Same Time

Take a patient with 80% body surface burn, for example, 2 experienced nurses could complete the entire wound dressing in 2 hours, but 6 inexperienced nurses, 2 hours are hardly enough. Since Taipei Tzu Chi Hospital assembled two dedicated dressing teams, my plan was to teach these dressing team nurses and have them

instruct others. On the other hand, since each bed has an assigned primary nurse, if they can learn it, it is better for the patients.

I was greedy at first, wanting to have both teams taught as soon as possible. The ward often echoed with my voice, “come, I know you are busy, but you have to understand the conditions of these wounds before administering medications...” Endless tasks and nerve-wracking pressure cracked both the inexperienced and the experienced to tears, but the sessions must go on. Some lessons must be taught as the situation develops to have a desirable effect, like wounds education without seeing the wounds can be difficult to understand. What degree of burn is this? How well is the recovery? What are the changes in color? How does the wound react to the dressing? There is a layer of dead skin after burn injury that requires debridement before new skin can grow, the opened wound would then need skin grafting, both are indispensable and painful procedures that would most likely be repeated several times over. Only in front of the wounds can I tell you how to identify a 2nd or 3rd degree burn, and whether the conditions improved or worsened. The accumulation of time and experience is the only way to learn.

I did not have the heart to push them further, knowing how overtasked they already were, so I had to change my strategy once again. I reduced the loading on primary nurses and redirect my attention to instructing the dressing teams, asking the arriving shift to report 30 minutes earlier, the departing shift to stay 30 minutes longer, then I would have the opportunity to teach both teams at once, going through each bed discussing the conditions of individual patients, the challenges we are facing, and the proposed solutions.....

As hard as we fought, dressing 12 patients twice a day, 2 hours each time, with 3 dressing times taking shifts, we still had to work 12 to 16 hours to complete! It was not hard to imagine how exhausted we were.

Clear Flow Chart to Prevent Infection

I then designed single-sheet teaching aid, incorporating in detail the entire nursing process, for the primary nurses and the dressing team. Each misstep worsens the patients' conditions. The aseptic principle, for example, when not followed properly could lead to patient infection. With the single-sheet teaching aid, everyone who came

to support had to review it carefully before entering. Once the system was established, everyone benefited.

Then came the shift change wound report. In the later stages of treatment, a patient may have 4 to 5 types of wounds and dressing methods, a clear distinction of each is a sure way to keep patients safe.

The emphasis was placed on, aside from dressing procedure, the design and setup of equipments. Burn patients require protective isolation, any harmless bacteria in a normal environment could sometimes be fatal to them. Cap, mask, shoe cover, and gowns are fundamental equipments to protect against cross contamination. Wound dressing has high demand of medical material. When I drafted a list of additional material demands, some asked, why would I need all these stuff? "It's not what I need, but what these patients need," I answered.

For example, each ward had 3 pairs of scissors, I demanded 24 pairs. First, when dressing the wound, you need to remove the old dressing, and that would take one pair of scissors; after cleaning the wound and place new dressing, another pair is needed for trimming. In short, dressing a patient would require at least two pairs of scissors, and



Wang To-Jung adjusted her strategy, teaching two teams at once during shift change. Taipei Tzu Chi Hospital nurses recorded the process.



The ward beds are crowded with life-supporting apparatus and heat lamps that are there to ensure the patients' survival.

12 patients make it 24 pairs. We dress twice a day, which makes it 48 pairs. Although 24 pairs were sufficient, we had to count on the supply room to sterilize them in time for next dressing. Other medical materials had equally large demands. The amount of medical supplies needed to care for burn patients is beyond the capacity of a general surgical ward.

Having all the medical material prepared ahead of time is crucial for clinical practice to proceed smoothly. Not only does it reduce staff stress, patients would also be able to receive the best care possible. We redesigned the carts for wrap cloth and dressing material to have all necessary items installed, which significantly reduced the time of fetching items, and minimized the duration of the patients' pain.

The Commendable Taipei Tzu Chi Hospital

Our experience from the past helped us to respond to situations instantly, giving an exact list of items needed when and how many. Some might consider me as a perfectionist, given the short amount of time to teach and learn, and I was well aware the stress I had been exerting on the team. The only goal, though, was to ensure that our patients who were in excruciating pain receive the best care possible, or my purpose of being here is lost.

I might be strict, but I continued to adjust and adapt as situation arise. I did not seek to erase everyone's dedication and effort. I would like to thank the trust of my colleagues, and commend those who endured and persisted.

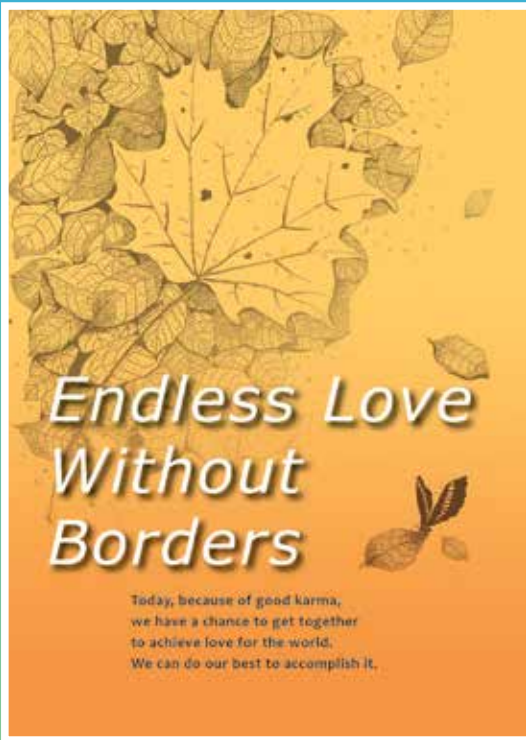
I was certainly impressed by the mobilization capability of Taipei Tzu Chi Hospital, not only for their timely supply of medical materials, but the speedy organization of equipments in mere days as well. I was concerned at first whether my two-week support was sufficient in a long, arduous battle of burn care, and what would happen after I leave? I hope that before I leave, I can share all my knowledge with the team.

Discharge Is Only a Beginning

After I returned to Hualien, I saw on the news that the burn patients had either transferred to general ward or discharged, the emotions were overwhelming. I bet that everyone in Taipei Tzu Chi Hospital were thrilled. We were there for two weeks, they stood their post for two months, the hardship from the beginning to the end was beyond words.

Our experience in burn care allow us to see further. The recovering process of these burn patients does not end with the ward transfer or the discharge, they are but a comma, not a full stop. When these patients are discharged, they have to face a prolonged rehabilitation and re-adaptation. No one knows how long it may take. Can these teenagers endure the hardship that lies ahead? The joy of patient discharge, to me, is only temporary. We have only reached our goal when these young people again lead a peaceful and happy life.

I have scoliosis, wearing a spine brace to work is my daily routine. I have been in clinical practice for 15 years, which translates to 15 years of bracing. It would be a lie if I just brush it off like it's nothing, but I have no regret. Once I became a nurse, I realized that my character traits are a great match to this environment. My greatest accomplishment and worth comes from the safe recovery of my patients. I wish that our society would provide strength and support to these burn survivors, and that they can lead a good and prosperous life.



This book is published about a year after Nepal earthquake in April 2015. What connects the authors together is - Tzu Chi.

One of the authors - Pharmacist Su Fang-Pei, a Tzu Chi volunteer and a member of Tzu Chi International Medical Association in Taiwan, wrote down:

“We often have chances to visit unknown countries because there are many disasters all over the world... In 2015, our light-up journey travelled to the home of Buddha in Nepal. I happened to meet a doctor called Nirdesh Shakya who is a descendant of Sakyamuni... The scene made me feel as if I was turning back time and following Sakyamuni Buddha on his travels. But this time, we were not preaching but practicing what we preached.”



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