

# Development of an enterostomal therapy nurse outpatient wound clinic in Indonesia: a retrospective descriptive study

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## ABSTRACT

The development of an enterostomal therapy nurse (ETN) clinic was a new system in the health care setting in Indonesia. This is a retrospective descriptive study conducted in Griya Afiat Makassar, an outpatient ETN clinic in eastern Indonesia, with data collected from medical records in 2012. There were 73 patients (35 male and 38 female) with 47 acute wounds and 26 chronic wounds. Duration of wound care for acute wounds was ( $11.26 \pm 18.2$  days) and for chronic wounds was ( $26.8 \pm 40.0$  days) with frequency of visit ( $3.5 \pm 3.7$  times) for acute wounds and ( $7.8 \pm 9.2$  times) for chronic wounds. Our healing rate was 85.1% and 34.6% for acute and chronic wound respectively. The introduction of an ETN clinic in Indonesia has had a positive outcome in wound healing process, for both acute and chronic wounds in Indonesia.

*Keywords: Enterostomal therapy nurse, outpatient wound clinic, Indonesia.*

## INTRODUCTION

The Republic of Indonesia is one of the world's most heavily populated countries where the health systems serve a diverse cultural population<sup>1</sup>. In Indonesia the health care system can be categorised as three different institutions: hospital-based (district

hospital, provincial hospital, regional hospital); public health care and outpatient clinic, where the most commonly provided outpatient clinics are by physicians. Meanwhile the nursing education system in Indonesia can be divided into two categories: university-based, which focuses on the preparation of professional nurses and academic-based, focusing on the preparation of vocational nurses.

There are approximately 600 nursing institutions in Indonesia, provided by government or private institutions, and the quality of graduates among institutions varies widely<sup>2</sup>. In addition, 80% of qualified Indonesian nurses have a diploma<sup>3</sup>, with disparities among different geographic locations<sup>4</sup>. National registration systems for nurses are under development<sup>2,3</sup> and this becomes a challenge for Indonesian nurses to perform professional practice independently.

### History of the ETN in Indonesia

The introduction and development of the enterostomal therapy nurse (ETN) in Indonesia was very slow. Between 1995 and 2005 there were only eight Indonesian ET nurses who had to go abroad to complete ETN training in Australia, Malaysia, Singapore and Hong Kong<sup>5</sup>. On 15 July 2005 the Indonesian Enterostomal Therapy Nursing Association (InETNA) was launched as the National Union of Indonesian ET Nurses<sup>5</sup>. At the 3rd National Congress in Bandung 2012, InETNA was transformed to the Indonesian Wound Ostomy and Continence Association (InWOCNA). This was the starting point to increase and enhance the ET nurse in Indonesia.

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In 2007 the World Council of Enterostomal Therapy Nursing (WCETN) introduced the Indonesian Enterostomal Nursing Education Programme (ETNEP). This program was endorsed by the WCETN and Australian ETNs through AASTN. This eight-week course consisted of four weeks of theory (classroom) and four weeks in practice (clinical setting), conducted by preceptors about stoma, wound, continence and professional development. Some ETNs from Australia were lecturers and preceptors<sup>3</sup>.

This project has had a positive impact on the development of the ETN in Indonesia. As the result, the number of ETNs in Indonesia increased by 400% in 2008<sup>5</sup> and over the past five years the total number of ETNs in Indonesia has increased to 67 to serve 270 million Indonesian people<sup>3</sup>. In this short report, we relate our experience as ETNs in developing a private wound clinic over the past year. Thus the aim of this study is to investigate the challenges faced in developing an ETN outpatient clinic in Indonesia.

## METHODS

This is a retrospective study, conducted in Griya Afiat Makassar, an ETN outpatient clinic in eastern Indonesia. Data was collected from medical records from January to December 2012. Demographic data was collected from the clinic data base, wound status recorded from wound care visit log book and digital documentation of wound status.

Table 1: Demographic data.

Sex	n=73	(%)
Male	35	(47.9)
Female	38	(52.1)
Age groups		
Children (< 11 years)	17	(23.3)
Teenagers (12–25 years)	10	(13.7)
Adult (26–45 years)	17	(23.3)
Elderly (> 46 years)	29	(39.7)

## Developing the clinic

As mentioned above, the tertiary health care system in Indonesia is mostly via outpatient clinics provided by physicians, thus our private wound clinic is new in Indonesia. The standards for setting up a private practice in Indonesia are generally not stringent<sup>4</sup>. There are at least three legal administration processes to develop an outpatient clinic in Indonesia:

1. Application of recommendation letter from the Indonesian National Nurses Association (INNA).

Table 2: Type and classification of wound based on group age.

	Age Groups								Total n(%)	
	Children n(%)		Teenagers n(%)		Adult n(%)		Elderly n(%)			
<b>Type of wound</b>										
Acute	17	36.2	10	21.3	10	21.3	10	21.3	47	100
Chronic	0	0	0	0	7	26.9	19	73.1	26	100
Total	17	23.3	13.7	26.9	17	23.3	29	39.7	73	100
<b>Wound classifications</b>										
Abrasion	3	37.5	3	37.5	1	12.5	1	12.5	8	100
Abscess	3	27.3	2	18.2	3	27.3	3	27.3	11	100
Burn	2	40.0	0	0	1	20.0	2	40.0	5	100
Cancer	0	0	0	0	1	50	1	50.0	2	100
Dehiscence	0	0	0	0	2	100	0	0	2	100
Dermatitis	5	55.6	2	22.2	1	11.1	1	11.1	9	100
DFU	0	0	0	0	4	22.4	14	73.7	19	100
Fistula perianal	0	0	0	0	0	0	1	100	1	100
Laceration	0	33.3	2	33.3	1	16.7	1	16.7	6	100
Lymphoedema	2	0	0	0	0	0	1	100	1	100
Pressure ulcer	0	0	0	0	1	50	1	50	2	100
Surgical wound	2	33.3	1	16.1	1	16.7	2	33.3	6	100
Venous ulcer	0	0	0	0	0	0	1	100	1	100
Total	17	23.6	10	13.9	16	22.2	29	39.7	73	100

2. Application of Surat Izin Perawat/SIP (Licence Letter for Nurse) from the Ministry of Health Province office.
3. Application of Surat Izin Praktek Perawat/SIPP (Licence Letter for Nursing Practice) issued by the Ministry of Health regional office. This licence will be valid for five years from issued date.

At the beginning we set up our clinic layout as two separate rooms: a lobby and a patient care room. Our clinic consisted of a bed, sterilisation set, three sets of instruments, trolley, one set of home care bags, a digital camera, office desk, printer, desktop computer and telephone line. We have four nursing staff: one ETN as the wound specialist, one clinical manager, and two nursing associates.

Since a wound dressing is not a drug we are allowed to write dressing prescriptions as non-medical prescribing<sup>6</sup>. We do not provide medical treatment; all of our interventions are in the wound care context. If we require diagnostic tests such as radiology evaluation for suspected osteomyelitis, we refer to the hospital, or if the patient has a spreading infection, we refer to a physician for antibiotic therapy.

#### Wound care process

Since our service goals are the implementation of best practice, based on wound care evidence, which is both cost-effective and

time-efficient, we set up seven standards of care. These standards are: communication; ethics; assessment; standard of care; infection control; cost-effectiveness; and collaboration. We also set up patient benefit goals: reduce frequency of visits; increase dressing wear time; reduce odour; reduce pain; infection control; cost-effectiveness; and accelerated wound healing.

Since our clinic is a private wound clinic, our patients are not covered by either national or private insurance; therefore, the patient must pay in cash. Depending on the product and distributor, our clinic's dressing costs were 8–30% cheaper than the hospital or pharmacy cost, making our clinic cheaper for patients, but higher in quality of care.

We also provide care free of charge for lower socio-economic patients. Thus we categorise our patients into three categories: total paid, partial paid and no paid. Total paid is for the patient who has the economic ability to pay 100% of total cost; partial paid is for the patient who pays the dressing cost but is free of nursing cost; and no paid is for the patient who has no money but needs wound care services.

#### RESULTS

Based on our records within one year (2012), 73 patients attended our clinic; 35 (47.9%) male and 38 (52.1%) female with age ranges from

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Table 3: Type and classification of wound based on initial wound size.

	Initial wound size						Total n(%)	
	< 15 cm <sup>2</sup> n(%)		15–50 cm <sup>2</sup> n(%)		> 50 cm <sup>2</sup> n(%)			
<b>Type of wound</b>								
Acute	42	89.4	2	4.3	3	6.4	47	100
Chronic	10	38.5	5	19.2	11	42.3	26	100
Total	52	71.2	7	9.6	14	19.2	73	100
<b>Wound classifications</b>								
Abrasion	6	75	1	12.5	1	12.5	8	100
Abscess	11	100	0	0	0	0	11	100
Burn	4	80	0	0	1	20	5	100
Cancer	0	0	0	0	2	100	2	100
Dehiscence	2	100	0	0	0	0	2	100
Dermatitis	8	88.9	1	11.1	0	0	9	100
DFU	8	42.1	4	21.1	7	36.8	19	100
Fistula perianal	0	0	1	100	0	0	1	100
Laceration	6	100	0	0	0	0	6	100
Lymphoedema	1	100	0	0	0	0	1	100
Pressure ulcer	0	0	0	0	2	100	2	100
Surgical wound	5	83.3	0	0	1	16.7	6	100
Venous ulcer	1	100	0	0	0	0	1	100
Total	52	71.2	7	9.6	14	19.2	73	100

1–70 years old. The largest group were elderly (> 46 years old) 39.7% (Table 1). Considered on group age, 47% of acute wounds occurred at a lower age (< 25 years old) while 100% of chronic wounds occurred in the adult and elderly groups (< 26 years old) (Table 2). Acute wounds were abrasions, abscesses, burns, dehiscence, dermatitis, perianal fistulas, lacerations, lymphoedema, and surgical wounds. Chronic wounds were cancer, diabetic foot ulcers (DFU), pressure ulcers and venous ulcers. Based on aetiology, the most common acute wound were abscesses (23.4%) and DFU (73%) for chronic wounds.

At initial assessment, 71.2% of wounds were less than 15 cm<sup>2</sup> (range 1 cm<sup>2</sup> to 333 cm<sup>2</sup>) (Table 3). The mean period of wound care days for acute wounds was 11 days (range 1–115 days) and 27 days for chronic wounds (range 1–204 days). In addition, the mean frequency of visit times was four times for acute wounds and eight times for chronic wounds (Table 4).

Our healing rate was high at 85.1% for acute wounds and 34.6% for chronic wounds. It seems that our healing rate was lower in chronic wounds due to the increasing drop-out rate of chronic wound patients at 38.4% (higher than total drop-out rate of 23.2%). Another finding was that the number of drop-outs increased as the initial wound size increased, while the healing rate increased as the wound size decreased (Table 5). Two patients died due to diabetic foot gangrene.

## DISCUSSION

The outpatient clinic provided by the ETN is a new system in the health care setting in Indonesia, gaining strength from networking among health care professionals and requiring support from government to increase the quality of care among wound patients. According to McCaughan<sup>5</sup> there are three barriers for the Indonesian ETN:

1. Inadequate training and education.
2. A negative organisation culture.
3. The cost of treatment to patients.

In line with this, McCaughan<sup>5</sup> emphasised personal responsibility and capability as the main central issues in development of these wound clinics.

Based on our finding that the healing rate was 67.1% with the average visit of four times for acute wounds and eight times for chronic wounds, this gives a positive impact to the patient by reducing the dressing time, leading to reduction of cost. The patient also receives positive clinical advantages such as reduced pain, controlled odour, exudate and infection, which can lead to accelerated wound healing.

Table 4: Wound care process.

Type of wound	n=73	(%)	Duration of days		Frequency of visits	
			mean	(SD)	mean	(SD)
Acute	47	64.4	11.26	(18.2)	3.5	(3.7)
Chronic	26	35.6	26.8	(40.0)	7.8	(9.2)
<b>Wound classifications</b>						
Abrasion	8	11.0	22.3	(39.2)	5.5	(7.0)
Abscess	11	15.1	4.4	(5.8)	2.1	(1.5)
Burn	5	6.8	14.2	(9.3)	5.0	(4.2)
Cancer	2	2.7	16.0	(19.7)	6.5	(6.3)
Dehiscence	2	2.7	30.0	(5.6)	6.5	(2.1)
Dermatitis	9	12.3	4.8	(2.1)	2.2	(1.0)
DFU	19	26.0	30.8	(45.8)	7.8	(10.1)
Fistula perianal	1	1.4	3.0	(-)	2.0	(-)
Laceration	6	8.2	12.3	(11.8)	3.5	(3.0)
Lymphoedema	1	1.4	15.0	(-)	5.0	(-)
Pressure ulcer	2	2.7	28.5	(2.1)	16.5	(6.3)
Surgical wound	6	8.2	8.6	(8.9)	3.0	(2.4)
Venous ulcer	1	1.4	4	(-)	2.0	(-)
<b>Initial wound size</b>						
Small (< 15 cm <sup>2</sup> )	52	71.2	10.1	(10.2)	3.2	(2.7)
Moderate (15–50 cm <sup>2</sup> )	7	9.6	40.5	(73.0)	10.0	(15.7)
Severe (> 50 cm <sup>2</sup> )	14	19.2	29.5	(32.2)	9.2	(7.0)

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Table 5: Type and classification of wound based on outcome.

	Wound outcome (N)								Total n(%)	
	Dead n(%)		Drop Out n(%)		Healing n(%)		Referrals n(%)			
<b>Type of wound</b>										
Acute	0	(0)	7	(14.8)	40	(85.1)	0	(0)	47	(100)
Chronic	2	(7.6)	10	(38.4)	9	(34.6)	5	(19.2)	26	(100)
Total	2	(2.7)	17	(23.2)	49	(67.1)	5	(6.8)	73	(100)
<b>Wound classifications</b>										
Abrasion	0	(0)	1	(12.5)	7	(87.5)	0	(0.0)	8	(100)
Abscess	0	(0)	4	(36.4)	7	(63.6)	0	(0.0)	11	(100)
Burn	0	(0)	0	(0.0)	5	(100)	0	(0.0)	5	(100)
Cancer	0	(0)	1	(50.0)	0	(0.0)	1	(50.0)	2	(100)
Dehiscence	0	(0)	0	(0.0)	2	(100)	0	(0.0)	2	(100)
Dermatitis	0	(0)	1	(11.1)	8	(88.9)	0	(0.0)	9	(100)
DFU	2	(10.5)	5	(26.3)	8	(42.1)	4	(21.1)	19	(100)
Fistula perianal	0	(0)	1	(100)	0	(0.0)	0	(0.0)	1	(100)
Laceration	0	(0)	0	(0.0)	6	(100)	0	(0.0)	6	(100)
Lymphoedema	0	(0)	0	(0.0)	1	(100)	0	(0.0)	1	(100)
Pressure ulcer	0	(0)	2	(100)	0	(0.0)	0	(0.0)	2	(100)
Surgical wound	0	(0)	1	(16.7)	5	(83.3)	0	(0.0)	6	(100)
Venous ulcer	0	(0)	1	(100)	0	(0.0)	0	(0.0)	1	(100)
Total	2	(2.7)	17	(23.3)	49	(67.1)	5	(6.8)	73	(100)
<b>Initial wound size</b>										
Small (< 15 cm <sup>2</sup> )	1	(1.9)	9	(17.3)	40	(76.9)	2	(3.8)	52	(100)
Moderate (15–50 cm <sup>2</sup> )	0	(0)	2	(28.5)	4	(57.1)	1	(14.2)	7	(100)
Severe (> 50 cm <sup>2</sup> )	1	(7.1)	6	(42.8)	5	(35.7)	2	(14.2)	14	(100)
Total	2	(2.7)	17	(23.2)	49	(67.1)	5	(6.8)	73	(100)

One of the problems was the higher drop-out rate. There was no particular condition common to the drop-out patients. Some of the patients reported failure to attend the clinic because there was no family support, they lived outside the city, they decided to try to find alternative therapy and economic factors. Many people in Indonesia do not have health insurance and must pay for everything used, including expensive dressings<sup>8</sup>. The average basic salary of an Indonesian person is Rp. 1.000.000 a month, while the daily hospital bed cost is Rp. 250.000 in a private hospital and Rp. 100.000 in a government hospital<sup>8</sup>.

The average cost of a visit to our clinic is approximately Rp. 50.000 and Rp. 100.000 for a home care visit, excluding dressings. A previous study<sup>9</sup> stated that visits to the clinic cost Rp. 45.000 for a short visit and Rp. 99.000 for a long visit. This is actually very cheap, but for Indonesian people it can be expensive, particularly when the dressing

price is added. For example, Aquacel (hydrofibre dressing) was Rp. 70.000 per piece, with a dressing frequency every 2–5 days, depending on exudate level and secondary dressing<sup>8</sup>.

We had five patients referred to other nurses and hospitals. According to Sheehan *et al.*, referral systems can be from colleagues as primary referrals<sup>7</sup>. Within the past year our attendance was 73 patients with 358 total visits at one clinic. This shows positive indicators of a successful wound clinic<sup>7</sup>. Moreover, it seems that communication among colleagues has been an effective way to advertise this clinic. According to Sheehan, one way to successfully develop outpatient clinics is word of mouth communication among colleagues<sup>7</sup>.

It cannot be ignored that many nurses provide outpatient care independently; the problem is they perform medical treatment. This leads to a premature conclusion that outpatient care by nursing

offers low quality of care compared to services by primary health care or physicians<sup>4</sup>; therefore, we agree that improving professional development among nurses in private settings is necessary<sup>4</sup>.

Many patients reported satisfaction of care related to decreased frequency of visits, no pain at dressing changes, odour control, and improvement in performing activities of daily living. Consistent with this finding, our outpatient clinic has a decreased number of visits, reduced wound healing times, achieved successful healing, reduced total cost, reduced nursing time, and increased contact between nurses and families<sup>10</sup>.

## CONCLUSION

Outpatient clinics provided by ETNs is a new system in health care in Indonesia which offers quality of care, leading to acceleration of wound healing and reduction of complications associated with the wound healing process.

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