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**Сравнительное исследование влияния повязки  
при ожоге**

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**Research on results of different dressing methods used during  
burn**

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*Аннотация. Повязки при ожогах имеют большое значение для заживления ран. На практике у нас в стране при ожоге, используя*

*дезинфицирующие средства и мазь делают повязки и в результате отмечается сухость кожных покровов, замедления заживления ожоговой раны и больным причиняют мучительную жгучую боль. Нынче, в США и Японии пользуется «Мокрый способ» для повязки при ожоге, в основу этого метода лежит принцип того, что человеческое тело состоит из 70% воды при этом поддерживаются влаги тканей организма и клеток, быстро регенерируются кожи и облегчает боль.*

*Мы провели сравнительный анализ для того, чтобы дать оценку результатом повязки разными способами при ожоге как традиционный так и мокрый. Как показывает результат, при традиционном способе 9 больным из 10 остаются шрамы, при и после повязки чувствуют мучительную боль (100%), проводят много дней в больнице ( $16,86 \pm 8.05$ ) в связи с этим затраты повышаются (434052 туг).*

**Ключевые слова:** *рана, повязка, мокрая повязка.*

**Abstract.** *Researchers found that all over the world burn injuries have become one of the lethal illnesses and; annually 265 thousand people have passed away due to burns and thousands of people lost their health and beauty. Just in Ulaanbaatar's case annually about 1200 people are treated at burns center because of various incidents. Dressing during burn has direct impact on wound healing and; because our country's current clinical practice dresses wound using cleansing solutions and medical oils on burn wounds, which causes wound to be dried, healing process to be slowed and patients to be in much longer pain.*

*In countries such as USA and Japan, moist wound healing method is used during burn, which is based on the fact that human body's 70% percent is composed of water and therefore it has consequences of keeping moisture of cells and tissues, acceleration of skin growth and benefit of easing pain in short amount of time.*

**Keywords:** *burn, dress, wound, moist.*

**Research background:** Researchers found that all over the world burn injuries have become one of the lethal illnesses and; annually 265 thousand people have passed away due to burns and thousands of people lost their health and beauty. Just in Ulaanbaatar's case annually about 1200 people are treated at burns center because of various incidents. [4]In Darkhan-Uul province, at Trauma center of General hospital 138 and 239 people are hospitalized from burn injuries in 2013 and 2014 respectively with growth of patients increased 1,7 times from that of previous year. [2] Burn is a type of injury to skin other tissues caused by heat or radiation and has four classifications depending on its extent [5]. Dressing during burn has direct impact on wound healing and; because our country's current clinical practice dresses wound using cleansing solutions and medical oils on burn wounds, which causes wound to be dried, healing process to be slowed and patients to be in much longer pain. In countries such as USA and Japan, moist wound healing method is used during burn, which is based on the fact that human body's 70% percent is composed of water and therefore it has consequences of keeping moisture of cells and tissues, acceleration of skin growth and benefit of easing pain in short amount of time.

**Goal of research work.**

Compare and assess the results of dressing methods of current clinical practice of Mongolia and moist wound healing during burn.

**Objectives of research work.**

1. Process and assess the result of dressings used in current clinical practice during burn
2. Process and assess the result of moist wound healing method during burn
3. Determine the relationship between scar left after burns and dressing methods used.

### **Research originality:**

Research originality is that it determines the benefits of moist wound healing method and its comparison with dressing used under current clinical practice.

### **Practical significance of research work:**

Research work's practical importance is that it proves that moist wound healing method during burn is simple and effective way of treatment as it is based on the fact that human body's 70% is composed of water and; as a result it accelerates the growth of skin without losing moisture of tissues, eases pain of patients in short amount of time, heals wounds without scars, saves money on dressing materials and shortens the duration of hospitalization and also it has positive impact on beauty and psychology of patients.

### **Research work materials and methodology**

The research is conducted among 40 patients with 2<sup>nd</sup> degree burns at Trauma unit of General hospital in Darkhan-Uul province through questionnaire, observation and documentary methods. 30 patients with dressings used in current practice and 10 patients with dressings aimed at moist wound healing are selected for control and treatment group respectively. Research is conducted from February, 2014 to February, 2015. Research results are processed through SPSS20 program.

### **Research work result.**

Average age of 30 patients in control group is  $38,02 \pm 20,15$  and men and women participation rate was 46,7% and 53,3% respectively and; average age of 10 patients in treatment group is  $27,58 \pm 21,55$ , and men and women participation rate was 40% and 60% respectively.

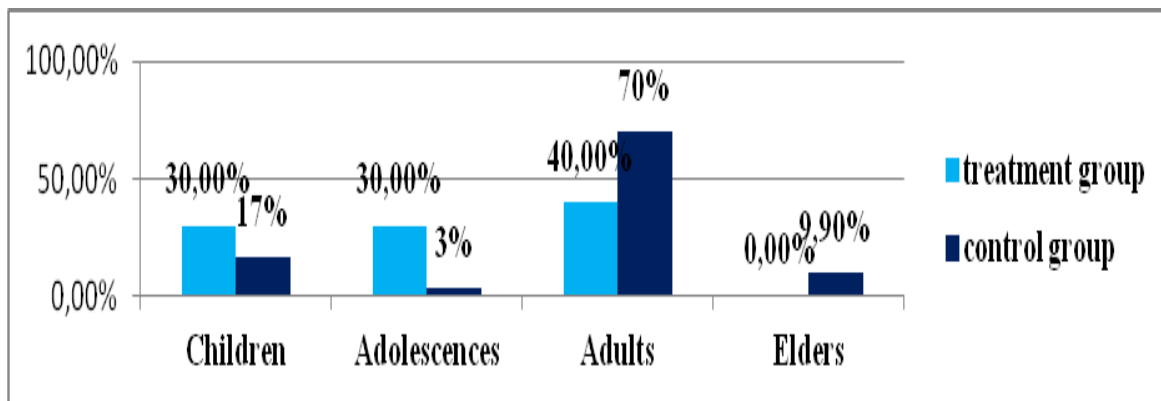


Figure 1. Ages for both groups

30 patients in control group have been hospitalized for average day of  $16,86 \pm 8,05$ , however 10 patients in treatment group have been hospitalized for average day of  $7,5 \pm 2,79$ , which is 2,24 times less than that of control group.

Table 1

Duration of hospitalization for both groups

	Treatment group	Control group
<b>Average day of hospitalization</b>	<b>7,5±2,79</b>	<b>16,86±8,05</b>
<b>Maximum duration</b>	<b>5 days</b>	<b>8 days</b>
<b>Minimum duration</b>	<b>14 days</b>	<b>40 days</b>

Control group patients said that after removal of dressings the wound bled and caused great pain and it itched greatly on contact with cleansing solution; the treatment group patients said that it itches mildly when showered with water.

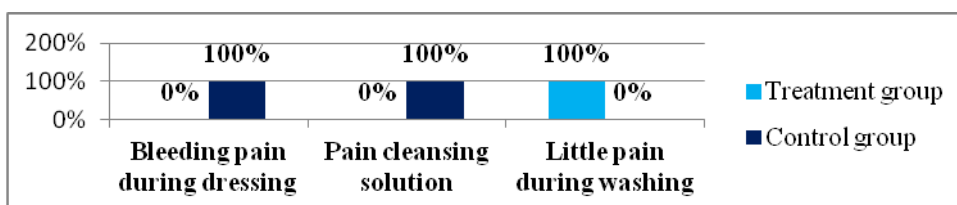


Figure 2. Uneasiness during dressing for both groups

After dressings control group patients said that pain continues through a night and 97,6% went under contraction and on the other hand treatment group patients said that pain went away instantly.

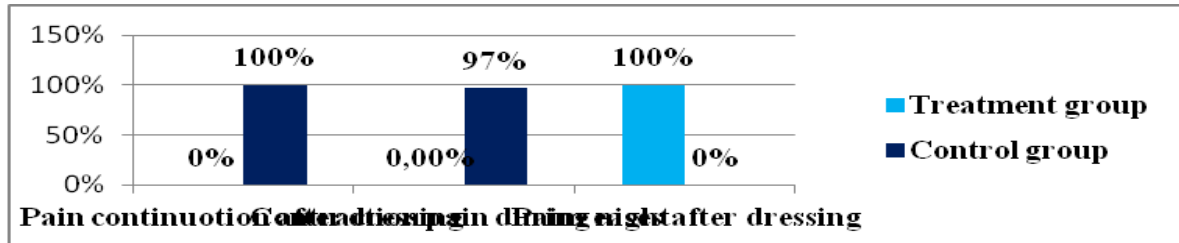


Figure 3. Uneasiness faced with both groups after dressings is made

97,6% of control group patients has used at least 6 times pain killer during their hospitalization however treatment group has used pain killer at maximum 5 times.

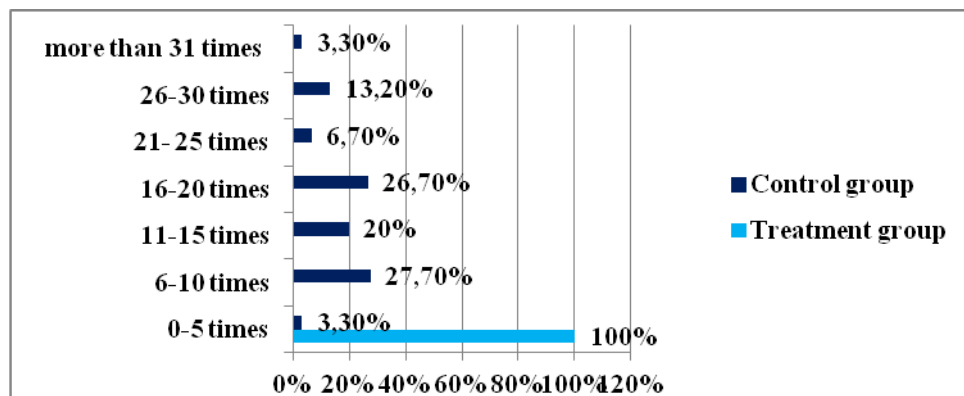


Figure 4. Frequency of pain killer usage for both groups

For control group, 86,7% is left with scars and for treatment group 20% is left with scars after burn wounds.

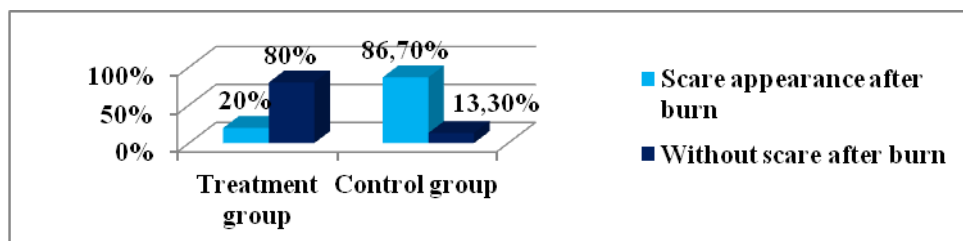


Figure 5. Scare appearance after burn for both groups

The costs of dressing for control and treatment group were 434,052 MNT and 61,970 MNT respectively. Even though the number of people in treatment group were three times less than that in control group and; if the number of people in both groups were equal, the cost of dressing for treatment group would be still 248,142 MNT less than that for control group

Table 2

Costs of dressings for both groups

	Minimum cost	Maximum cost	Average cost for per person	Total cost
Treatment group	3900 ₮᠙	10620 ₮᠙	6197.0±2155.2	61 970 ₮᠙
Control group	5000 ₮᠙	40200 ₮᠙	14468.4±9519.6	434 052 ₮᠙

OR=20 indicates that dressing method during burn wound has great influence on scar appearance after wound healing. 8 out of 10 people and 1 out of 10 people healed without scars in treatment and control group respectively according to intensive indicators. Relationship between scar after burn and dressing method is determined using Pearson's correlation coefficient and  $r=1$  shows that there is a direct relationship between them.  $P<0.01$

**Conclusion:**

1. 9 out 10 people treated with dressing method under current clinical practice during burn healed with scar, there were great pain during and after dressing (100%), many days of hospitalization caused high cost (434,052 MNT) and then this method proven to be less efficient.

2. 8 out of 10 people with treatment of moist wound healing during burn are healed without scars, there were less pain during dressing and no pain expressed after dressing, the cost was at reasonable level (61,970), the

wound healed in less amount of time ( $7,5\pm 2,79$ ) and proven to be effective method.

3. Appearance of scar after wound healing is directly related with dressing method undertaken ( $r=1$ )  $P<0.01$

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