

# Individual Testimonies of Nursing Care after the Atomic Bombing of Nagasaki in 1945

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## Abstract

**Purpose:** To describe the situation with respect to nursing care conducted immediately before and after the atomic bombing of Nagasaki in 1945.

**Methods:** Nurses who were registered nursing staff in Nagasaki at the time of the bombing volunteered to participate in this research. Individual interviews were conducted to obtain information concerning the nursing activities in affected areas. The collected information was compared with official documents regarding the atomic bombing of Nagasaki and findings of current studies of disaster situation nursing.

**Result:** Five participants indicated that starting on the day of the bombing, nursing care activities changed from moment to moment according to the condition of radiation victims, the condition of affected areas, and the relief systems in place. Under these conditions, nurses attempted to provide nursing care to victims of the bombing through any means possible.

**Conclusion:** The participants in the present study communicated a single message: that nursing care must be flexible in critical situations. Triage and cooperation with other types of medical professionals were also identified as important factors in nursing care.

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## Introduction

It is estimated that 280,000 people were directly exposed to radiation following the atomic bombing of Nagasaki on August 9, 1945 and that approximately 70,000 people had died due to this exposure by the end of December 1945.<sup>1</sup> In the immediate aftermath of the bombing, the local government was overwhelmed, and faced difficulties due to the disruption of transportation in and out of the area. Essential supplies and equipment were in very short supply. Despite the damage and problems attaining the necessary supplies, nurses in Nagasaki worked to care for the victims and save lives.

The atomic bombing of Nagasaki occurred 65 years ago. It is considered to be essential to collect narrative accounts regarding the nursing care provided for victims of the Nagasaki bombing by recording the testimonies of nurses who directly participated in relief efforts for those who were exposed to radiation in Nagasaki. It is also considered to be important to examine documents that describe the actual nursing care that was provided for radiation victims in Nagasaki in the aftermath of the atomic bombing. Once collected, this information can be utilized in teaching nurses in other countries about nursing activities during disasters. This study was conducted to collect and preserve the direct experiences of nurses present in Nagasaki during the bombing event.

The following terminology was used in this study:

- *Region directly affected by the atomic bombing*—Nagasaki and adjoining cities, towns and villages are included.<sup>2</sup>
- *Relief station*—This term includes places where relief activities were temporarily performed in addition to more permanent relief stations that were set up by wartime disaster protection regulations before the bombing.<sup>2</sup>
- *Time period before the bombing*—The period from April 1945 to August 8, 1945;
- *The day the bomb was dropped*—August 9, 1945;
- *Immediately after radiation exposure*—The period of interest was from August 9, 1945 through October 8, 1945, when the relief stations were dissolved in accordance with the wartime disaster protection regulations. Emergency relief efforts were

provided for two months from the day the bomb was dropped on Nagasaki according to the wartime disaster protection regulations.<sup>3</sup>

- *Disaster*—The disasters were classified according to the Disaster Prevention Administration of Japan in 1977. Ohyane<sup>4</sup> stated that a disaster occurs because a society is incapable of coping with the cause, and that the disaster creates stress in daily life in the society.

## Methods

### *Procedure*

The study was conducted in two phases. In the first phase, relevant documents were collected using a literature review. In the second phase, five nurses who worked in Nagasaki after the bombing were surveyed using structured questions, and then interviewed using a semi-structured, open-ended technique.

### *Document Retrieval*

A total of three documents concerned with the wartime system in Nagasaki,<sup>3</sup> damage from the atomic bombing and subsequent relief activities,<sup>5</sup> restoration activities,<sup>6</sup> and disaster nursing during the postwar period to recent years were retrieved and analyzed. The information retrieved from the documents was categorized into the following four time periods: Period 1 (before August 9th), Period 2 (on August 9th), Period 3 (from August 10th through October 8, 1945), and Period 4 (the relief period from October 9, 1945 to 1955).

### *Participants*

Participants were identified by inviting the members who belonged to the Nagasaki Nursing Association at the time of the bombing who were still alive and registered as the members of the association. Five registered nurse members responded. Candidates were asked to list the institution where they were working at the time of the bombings.

One day prior to the semi-structured interview, the participants were mailed a list of questions that included:

- 1) Their experiences of being exposed to radiation;
- 2) Their situation and that of their family when the disaster occurred;
- 3) Their work affiliation and actual work (work environment, job description, personnel, work resources);
- 4) The hardships or problems they faced during the disaster and how they coped with or improved these situations;
- 5) Whether nursing care services were initiated immediately after the radiation exposure occurred;
- 6) Any advice for present-day nurses.

### *Interviews*

Semi-structured interviews were conducted with all participants. The questions were mailed to the participants in advance and the participants brought their answer sheets to the interview room where individual face-to-face interviews were conducted and answers to questions were confirmed. All the interviews were audio and video-recorded on the day of the interview.

The information collected in the interviews was categorized according to the following four time periods: Period 1 (before August 9th), Period 2 (on August 9th), Period 3 (from August 10

through October 8, 1945), and Period 4 (the relief period from October 9, 1945 to 1955).

### *Analysis*

Information related to nursing, such as the roles of the various nurses when exposure to radiation occurred and the problems they faced when undertaking relief activities, was extracted from the documents. The collected information was coded and categorized according to the time periods described above.

To increase the validity of analysis, an additional core researcher compared the information collected from the five participants with the information retrieved from documents and verified that the information obtained in the interviews was valid. This study used only information that was verified according to this procedure.

### *Ethical Considerations*

The research protocol for the study was reviewed and approved by the Ethics Committee of the nursing development science course at the Graduate School Health Education Research Department at Nagasaki University. Participants received a consent form and a letter imparting the following information:

- 1) The purpose and method of the research;
- 2) Assurance that participation was voluntary and the interview could be discontinued at any time;
- 3) If at any time they felt uncomfortable or became distressed or experienced physical discomfort, discontinuation of the interview was allowed;
- 4) If they experienced physical or mental distress from participating in the interview, they would be offered treatment and counseling from a doctor;
- 5) The contents of the interview were presented to them in document form.

The individual participants were asked to bring their signed consent form and a signed form from their family members to the interview. Interviews were conducted only with the participants who gave consent.

## Results

### *Document Retrieval*

*Period 1: Prior to August 9, 1945*—From the start of World War II, Japanese people were conscripted into war industries and participated in the production of munitions.<sup>3</sup> As Nagasaki was home to a munitions factory, this participation had an important meaning for the people of Nagasaki.<sup>7</sup> Moreover, food shortages became commonplace and people became dissatisfied with the difficulty of everyday life.<sup>7</sup>

Nagasaki residents also felt unease because of the repeated air raids.<sup>7</sup> Nagasaki suffered five air raids which severely reduced the availability of medical supplies and medicine.<sup>3</sup>

Precautionary rescue and relief efforts were controlled by Nagasaki's medical association. In total, 22 relief stations were designated and 327 staff organized to service these stations.<sup>3</sup>

*Period 2: The day of the bombing, August 9<sup>th</sup>, 1945*—The destructive power of the bomb dropped on Nagasaki was immense.<sup>3</sup> In addition to multiple deaths and serious physical disabilities, the bomb caused psychological panic. The city itself

was heavily damaged and food, clothing and homes were lost in the resulting fires. The situation was completely beyond anyone's capacity to cope with it.<sup>3</sup> Instantly, planned disaster response changes to medical relief organizations were fundamentally changed.<sup>3</sup>

*Period 3: August 10–October 8, 1945*—Wounded citizens gathered at places that had been designated as relief stations prior to the bombing. There, relief activities were performed by doctors who survived and by relief workers from surrounding areas.<sup>3</sup>

Of vital importance to the wounded and others fleeing the city were so-called relief trains. Many of the survivors of the bombing took refuge in the outskirts of the city, traveling by train. The injured were conveyed to hospitals outside of the city.<sup>3</sup> Burn victims made up the largest portion of initial injuries treated at these hospitals. The only available treatment that could be applied to the burns was zinc oxide and zinc oxide ointment. However, as supplies began to run short, cooking oil was substituted. It became particularly difficult to treat the burns when maggots began to appear on the skin.<sup>3</sup>

*Period 4: The Relief Period after October 8<sup>th</sup>*—During this period, medical care for victims improved in Nagasaki. Medical equipment was collected from army hospitals and dispatched to the region. Moreover, medical supplies were also offered by the United States.<sup>3</sup>

Meanwhile, the Omura Naval Hospital and the Shinkozen emergency hospital became branch hospitals of Nagasaki Medical University and continued to care for A-bomb casualties. The Omura facility, however, was designated solely for wounded navy personnel, so the branch hospital of Nagasaki Medical University was moved to the former Isahaya Naval Hospital.<sup>3</sup>

Furthermore, in an administrative reform, Nagasaki Medical University was made the school of Medicine of Nagasaki University, and educational facilities and the attached hospital were rebuilt and reopened on the old site of the former medical university.<sup>3</sup>

#### *The Interviews*

*Period 1: Prior to August 9<sup>th</sup>, 1945*—The participant nurses said that people were worried about air raids by the American Forces. Soon after the raids, one participant reported returning to her workplace.

Another nurse described the suffering in Ohato-cho after an air raid as follows. Immediately after the air-raid alarm sounded, she went to her place of work. All the persons involved in the relief efforts gathered at the hospital specified as the relief station. When doctors returned, many patients came. These patients had received machine-gun wounds. Patients without any bullets remaining inside their bodies did not require surgery, but were administered pain relievers. Patients with bullets in their bodies were immediately sent for surgery, and operations were conducted under the direction of a doctor. In addition, it was necessary to send medical supplies and equipment to treat patients in various other locations.

*Period 2: The Day of the Bombing, August 9, 1945*—The participants described the scene following the atomic bombing. Medical facilities near the epicenter of the explosion, including Nagasaki Medical University, were severely damaged. The original relief plan that had been devised had to be abandoned based on the devastation immediately following the bombing.<sup>3</sup>

Nurses had been exposed to radiation and were injured. One nurse who was in charge of providing care had broken ribs, but did not notice her injury. She guided victims of the atomic bombing who were seeking refuge, and was evacuated with them. At Nagasaki Medical University, personnel and students who had barely survived had to provide treatment for the injured in the ruins of the University.<sup>3</sup>

*Period 3: August 10–October 8, 1945*—In spite of intense relief efforts, the victims moaned and cried for help because of the pain. Many of the victims grabbed helpers and asked for water. While victims sought medical treatment, it was found that medical supplies were almost non-existent. Furthermore, at the medical university, medical supplies and equipment had been evacuated to various locations before the atomic bombing occurred. Therefore, personnel and students who had barely survived themselves had to provide treatment for the victims of the bombing using limited resources.<sup>8</sup>

The participants in this research worked extremely hard to provide nursing care. However, medical supplies including bandages for burns and injuries were insufficient. Consequently, the nurses improvised and used anything they could find to aid in delivery of medical care.

Most victims of the bombing were in need of burn treatment. Zinc oxide and zinc oxide ointment were the only initial treatment available but eventually, cooking oil had to be used when nothing else was available.

From August 12<sup>th</sup> through 17<sup>th</sup>, one team from Nagasaki Medical University treated and nursed casualties at a provisional relief station in Nameshi. On August 18<sup>th</sup>, this provisional relief station was closed. Subsequently, another mobile station provided medical care in the Mitsuyama district outside Nagasaki city from August 12<sup>th</sup> to October 8<sup>th</sup>.<sup>3</sup>

Omura Naval Hospital was not requisitioned by occupation forces; therefore, from early October, surviving personnel from Nagasaki Medical University provided assistance with medical services. In fact, the university resumed its postwar instruction at Omura Hospital.<sup>8</sup>

*Period 4: The Relief Period after October 8, 1945*—Two months after the atomic bombing, the relief stations were dissolved according to the regulations by the local authorities.<sup>3</sup> The hospital's management organization was changed and the current organization that manages the hospital has been in charge since 1948.<sup>3</sup>

The Act on Public Health Nurses, Midwives and Nurses method was enacted in 1949.<sup>9</sup>

Consequently, a new nursing school was created and a Nursing Association was established.<sup>10</sup>

Instruction was received on the use of the GHQ (General Headquarters of the Supreme Commander for the Allied Powers) in public health nursing. Participants indicated that Japan's nursing system went through an epic change.

#### *Participants' Messages to Present-Day Nurses*

Each participant gave messages to those who presently work as nurses. Three participants pointed out that nurses must be healthy, both physically and mentally, or they cannot carry out their responsibilities. One participant indicated that nurses must show patients through actions that they will care for each and every one. Another also suggested that "I always asked myself

what a nurse should do in that situation. Once I knew that, I could take action.” One nurse also contended “If the chain of command is unstable, trouble arises. You get flustered and don’t know what to do.”

## Discussion

### *Comparisons of Past and Present Nursing Following a Disaster*

The documents analyzed in this research showed that in a disaster, nursing activities are affected by various social issues and policies. By comparing the nursing plans developed to respond to current disasters with the conditions faced by ordinary people following the bombing of Nagasaki, it was found that life-saving and relief activities then and now are basically the same as nurses are still trained to give assistance wherever it is required.

One difference in the actions before and after the atomic bombing in Nagasaki is that people were directed and coordinated by the wartime disaster protection regulations. These regulations established a general plan for calling up medical and nursing personnel. The wartime authority also issued a general draft concerning the responsibility of ordinary citizens. As a result, people carried out their tasks and duties as planned, as can be seen in the testimonies regarding the situations at relief stations. Similar preparation would ensure that nursing activities in future emergencies could be effective and well organized.

This finding suggests that people universally act to help others when a catastrophe occurs. The nurses’ testimonies also clarified how the laws and ministerial ordinances of a military state influenced the lives and relief activities at the time. Immediately after the bombing, relief activities were initiated either voluntarily or in accordance with regulations. Nurses played an important role in providing care, even in life-threatening situations.

At that time, they prioritized helping those who needed help. They said that they worried about determining which victims should be prioritized. This is a valuable insight about the importance of triage during any present-day emergency.

The five nurses provided a diverse range of information concerning nursing. This valuable information should be passed to present and future nurses. Irrespective of generational differences, these survivors’ accounts demonstrate that the principles of nursing care should be shared not only among nurses, but among all people in the modern world.

### *Distribution of Medicine and Medical Supplies*

Medical supplies and medicines were dispersed beforehand as a precaution against large air raids. In consideration of the confusion that will result from a future disaster, it is important to clarify and regulate the process of distributing medical supplies and care in times of disasters in order to ensure that relief activities are quick and effective. A disaster is a disaster because unexpected things happen. Therefore, it is necessary to establish stockpiles of medical supplies in several locations.

### *Limiting Periods for Examination*

The nurses who shared their experiences for this research emphasized that from the day of the bombing, their care activities changed on a moment-by-moment basis according to the condition of the patient, the location, and the available resources. Therefore, a target period for investigating these issues should be defined and a method of limiting the time period should be discussed to ensure that such valuable information is not lost for future generations.

### *Messages from the Five Nurses*

Modern nursing sites are typically well supplied and nurses have adequate access to necessary equipment. However, the testimonies of the nurses who experienced conditions following the atomic bombing of Nagasaki indicate that nurses must remain flexible and adapt to extreme shortages of resources and personnel by relying on their wisdom, experience, and expertise to make practical use of available resources such as household items.

The participants reported that they racked their brains when deciding on triage hierarchy. Even today, they feel bad about the triage situation.

They were in charge of relief, although they were also victims of the disaster. Therefore, the nurses said that the “body and the heart” must be healthy.

Currently, Japan has established medical and nursing systems for managing disasters. However, even in the confusion of a disaster zone, the common essential element remains the provision of nursing care to support victims according to the particular circumstances.

## Limitations

Confirmation of information obtained during interviews occasionally revealed inconsistencies in what the participants reported. When this occurred, the testimonies were reconfirmed. It seems that these inconsistencies were the result of faded or lost memories as a result of the 65 years that has passed since the atomic bombing of Nagasaki.

However, the testimonies may also be inconsistent for other reasons. One possible reason is the extreme stress that the nurses feel when recalling the traumatic events that followed the atomic bombing. Another reason may be that the nurses have repressed, consciously or unconsciously, specific memories to conceal facts they did not want others to know.

The aim of this research was not to uncover profound details from the participants. Future research should be conducted with the aim of elucidating more sensitive and private memories from these participants.

## Conclusion

The information collected from nurses who cared for the victims of the atomic bombing of Nagasaki was confirmed by referring to documents regarding the bombing and the current general assessment points for nursing in a disaster zone. Five nurses participated in this study by describing their actions and feelings during the relief period during which they participated, either voluntarily or as ordered. Their insights also addressed the importance of managing the possibility of secondary disasters. For future nurses, the participants emphasized that nursing activities cannot always be conducted using policy manuals, and that it can be necessary for nurses to adapt using the wisdom they have gained through their daily experiences when resources are scarce by making use of common household products. One nurse also pointed out that “You get flustered and don’t know what to do. I always asked myself what a nurse should do in that situation. Once I knew that, I could take action.” The data collected for this study are considered valuable educational resources for training nurses about nursing functions in a disaster zone.

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