Original Article

Changes in Japanese Doctors' Perspective after Battling Serious Illnesses and the Consequent Impact on their Medical Practice —The Wounded Healer

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Abstract

This study explored changes in the thinking and behavior of Japanese doctors who had personally battled serious illness.

Doctors are often assumed to be physically and mentally healthy. When falling sick, they are prone to self-stigmatization. However, the positive outcomes of doctors battling illnesses have attracted scholarly attention. Psychiatrist Carl Jung advocated the concept of the "wounded healer," a person who has endured an illness, gains wisdom from the experience, and uses it to heal others more effectively.

We analyzed the aforementioned changes by narrowing down the "wounded healer" effect data group.

We qualitatively analyzed verbatim transcripts of semi-structured interviews conducted with 14 doctors who had personally battled cancer, cerebrovascular disease, or heart disease using multilevel text condensation.

After serious illness, doctors were more likely to believe that they had gained a lot from their experience. Changes in thinking related to medical practice included the acquisition of diverse knowledge. Such changes translated into behavioral changes; for example, understanding the patient's perspective manifested in their improved communication with the patients. Most doctors diversified their activities outside of medical practice. Many also experienced significant changes in their views on life.

The "wounded healer" effect was confirmed, bearing valuable implications for medical education.

Introduction

Psychiatrist Carl Gustav Jung (1875-1961) first proposed the concept of the "wounded healer" in 1951. He stated that a psychoanalyst's own wound is a measure of their ability to heal a client's wounds.[1] He also wrote in his autobiography that "the doctor is only effective when he is affected. 'Only the wounded doctor heals' ".[2] According to Jackson, in the history of medicine scholars in the early 20th century, this concept was often used in Pastoral Counseling and Analytical Psychology; however, by the end of the century, it was greatly expanded and no longer solely referred to those who healed the ailing mind.[3]

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Doctors' struggle with illnesses has attracted much scholarly attention in terms of the interests of active doctors and provides useful implications for medical education. Morishita et al. used this perspective to conduct a literature review.[4] Several qualitative studies on doctors who are ill have also been reported. However, while there have been some studies on doctors' attitudes toward illness [5], barriers to seeking help, [6][7][8][9] self-treatment,[10] role reversal,[11] and views about their own and colleagues' health;[12] there is little qualitative research on the experience of working after returning from sick leave.

Fox et al. also indicated that only a few qualitative studies have provided evidence on how illness affects doctors' medical practices.[13]

Regarding battles against illnesses, the focus is usually on negative outcomes and experiences of overcoming them. However, we conducted an exploratory study focusing on a positive outcome, "wounded healer effect," in which doctors benefit from the wisdom they have gained in their battle with illness.

Jackson referred to the term "wounded healer" as "a person whose personal experience of illness and/or trauma has left lingering effects on him--in the form of lessons learned that later served him in ministering to other sufferers, or in the form of symptoms or characteristics that usefully influenced his therapeutic endeavors." We agree with this definition and consider that experiencing a life-threatening illness can give rise to the "wounded" situation for the person in question.[3] Thus, the term "wounded healer" refers here to "a subject, in this case a doctor, who performs the function of 'helping others to heal' that the subject seems to have acquired by becoming a patient of the life-threatening illness."

The various effects that arise in the medical field which could be attributed to the "wounded healer" are referred to as the "wounded healer" effects; and the group of statements that seem to be related to such effects is called the "wounded healer" effect data group.

Next, we explain the meanings of "positive" and "negative" in this study. We consider "positive" and "negative" as a matter of making sense of events by and for the person in question. For example, if a doctor becomes a patient with a serious illness, it may seem from the outside that they have suffered a terrible calamity stemming from overwork that has forced them to wear themselves out. Instead, the doctor may perceive their illness as "an opportunity to reflect on the meaning of his or her own life." In this way, it is possible to understand this life event as a positive event. Thus, if the person's evaluation, value, or significance of an occurrence (e.g.,

a doctor becoming a patient), experience (e.g., experiencing a disease), or activity (e.g., supporting a patients' group) is considered somehow 'plus' by the subject himself/herself, then it is called "positive." Conversely, if it is considered "minus," it is called "negative."

This study explored changes in both the thinking and behavior of Japanese doctors who have experienced serious illness. We analyzed the characteristics of these changes by narrowing down the "wounded healer" effect data group.

Materials and Methods

Ethical Considerations
This study was conducted in accordance with the ethical principles of the Declaration of Helsinki of the World Medical Association. The Ethics Committee of the Tokyo Medical and Dental University School of Medicine approved this study (approval number M2021-216).

After we obtained approval from the ethics committee, we approached the participants. They were informed about the research objectives, the maintenance of their anonymity, their participation being voluntary, and that they could withdraw even after providing consent without being penalized. They were also informed about how to withdraw, how and when data would be stored and destroyed, and where the results would be presented. Only those who provided signed informed consent were included.

Method
We employed a descriptive qualitative research design. Qualitative research is useful for understanding the needs and experiences of patients in healthcare settings, various social processes, and complex phenomena, including human interactions.[14]

Data from verbatim transcripts of semi-structured interviews with doctors who had personally battled a serious illness were analyzed using multilevel text condensation to compress and refine the data.

Eligibility Criteria
A total of 14 Japanese doctors who had personally battled serious illness between the ages of 30 and 60 years were eligible participants. They had suffered from cancer, cerebrovascular disease, or heart disease; which are the three leading causes of death in Japan.

In Japan, many doctors believe that one needs between 11–15 years of medical experience after graduation from medical school and a medical license to be

considered "full-fledged" professionals.* This dictated the target age group. Additionally, although Japanese medical licenses are not renewable, many public hospitals have set the retirement age at 65 years.

Data Collection

Doctors who had undergone the interviews from December 1, 2016 to December 31, 2021, and who experienced a battle with one of the three major diseases between the ages of 30 and 60 after obtaining their medical license, were asked to participate in this survey. Fourteen individuals, whose written consent was obtained, were included in the study, and the consent of a surrogate was obtained on behalf of one person who had died.

The 14 selected participants (11 men and 3 women) were 54–64 years of age at the time of the interview, and they were all still practicing medicine (mean/standard deviation=58.35/3.81). Seven were general practitioners (internal medicine or pediatrics); and seven were hospital doctors, four of whom also taught medical students at a teaching hospital. They experienced a significant bout of illness when they were 30–64 years old (M/SD=48.64/8.54). The diseases included various types of cancer (ten patients, including three rare types of cancer), cerebrovascular disease (three patients), and myocardial infarction (one patient). For those with cancer, the stage of the disease at diagnosis varied from IA to Ⅳ. No comorbid psychiatric disorders were identified in any of the participants.

The first author (AT) of this study has a history of writing the narratives of doctors who have become patients, and representing their voices in a monthly magazine, since January 2017; the first three years of the series were compiled and published in a paperback.[15] Semi-structured interviews were conducted for the magazine and the book, and AT created verbatim transcripts from voice recordings and owns both collections of data.

To maintain confidentiality, the interviews were conducted either in person, in a private space, or via Zoom. The interviews lasted from 1.5 to 3 hours and were semi-structured interviews, which meant that we only had a simple guide (key questions: history from onset to present; what you have noticed since becoming a patient; what you can say, especially from a doctor's point of view, how the disease has affected your way of life; what you have gained and lost) to refer to during the interview. There were variations due to individual differences in history and progress of the disease and the length of the interview.

The AT read verbatim transcripts while listening to voice recordings to confirm accuracy. For anonymization, the names of people and institutions were rewritten using acronyms or common nouns. Document files of the verbatim recordings were coded with an eight-digit number indicating the interview date.

These extracted data groups were assigned a data number (e.g., A1), which was created by combining the letters (A-N) indicating the participant and the sequence (number) of comments in the verbatim record, starting from 1. The data were divided according to content. Data containing an indicative pronoun or lacking a subject were supplemented with round brackets ( ).

Data Analysis

Data analysis was conducted both qualitatively and inductively. This involved multilevel compression and refinement of relevant data in six phases.

This method is highly compatible with Malterud's systematic text condensation method,[16] which was inspired by Giorgi et al.[17] This practical approach consists of the following four steps:

Step 1: Forming an overall impression
Step 2: Identifying meaning units
Step 3: Abstracting the contents of individual meaning units
Step 4: Summarizing the findings

Process

In qualitative analysis, it is important to make the specific procedures of analytical work explicit whenever possible. We will now provide a step-by-step overview of the actual related data refinement process conducted in this study by explaining what we call the six phases. To provide a concrete image of the process, we will use examples. The original data used in the example were verbatim recordings made from the interviews of participant H.

Phase 1: Narrowing down the data to the "Wounded Healer Effect Data Group"

The researcher (AT) read the verbatim records of each participant repeatedly and extracted the parts that were transformed by the illness experience, keeping the

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* HashimotoY. Beikoku "Sotsugo 5 nen inaide ichininmae," Nihon ha "11-15 nen" [U.S.: "A graduate is a full-fledged professional within five years of graduation"; Japan: "11 to 15 years"] (in Japanese), m3.com https://www.m3.com/news/iryoishin/574328, 1 Oct. 2021.

keyword "Wounded Healer" in mind. Example 1 below shows H's case.

Example 1 = Specific example of "Wounded Healer Effect Data Group" (H's case)

◎754 [← the number of the participant's comment in the verbatim record] I had the opportunity to accept this very, well, valuable experience of facing life as my own, and from that experience, I think my new life has expanded in this way. I think my new life has expanded from that experience. Well, the activities of the 'Charity for Cancer Patients Support' and the peer support activities are examples, but I am able to go beyond the boundaries of medicine and work in a position that connects society and medicine in my own way. I am a bit of an oddball, but I hope that I can play a variety of roles rather than being confined to the hospital.

The total volume of the "Wounded Healer Effect Data Group," which is the subject of the analysis in this paper, is 19 A4-size pages (41 characters × 36 lines), which is equivalent to 23,729 words. (41 characters x 36 lines).

Phase 2: Creation of "one-line headings"
The aim of this phase is to write out a word or phrase that seems to express the gist of the meaning in a straightforward manner. This "one-line heading" mode follows the work of Phase 1, that is, the specification of the phrases that seem to have a coherent meaning (see Example 1 above). For this purpose, the first task is to compress its semantic content to about one or two lines (see Example 2a below) after multiple readings of the sentences in Example 1. After this preparatory work, a "one-line heading" was created (see Example 2b).

Example 2a = Example of a sentence at the stage before the "one-line heading" is created (in the case of H).
  H1: She was diagnosed with cancer in her late 30s and had the valuable experience of facing life. This led her to expand her activities outside the hospital to support the cancer patients.

Example 2b = Specific example of "one-line heading" (in the case of H)
<H1 Expanding opportunities for cancer patient support outside the hospital>;.

The number of "one-line headings" created through the above process was [A = 5 lines (only the number of lines is listed below); B = 9; C = 6; D = 13; E = 4; F = 10; G = 8; H = 4; I = 8; J = 4; K = 4; L = 14; M = 17; N = 11] for each case, and 117 for all 14 cases.

Phase 3: Creating a "list of one-line headings" for each case
Phase 2 method was used to create the "list of one-line headings" from the "Wounded Healer Effect Data Group". (In the case of H, the four sources are H1, H2, H3, H4) for a single case (see Example 3). The lists for the remaining 13 cases were created in a similar manner.
Example 3 = Specific example of the <List of "one-line headings"> (H's case)

H1 Expanding opportunities for cancer patient support outside the hospital.
  H2: As peer support for cancer patients is in short supply, there is a need to concentrate on efforts to conquer cancer.
  H3: Guiding medical students to become doctors who understand the feelings of their patients.
  H4: Creating an environment where patients can feel at ease in the hospital by obtaining certification from a private therapist.

Phase 4: Insertion of "one-line headings" within the "organizing framework (for a bird's-eye view of changes related to the doctor himself/herself)"
As for changes related to the doctor, we distinguished between "changes in himself/herself" and "changes in the surroundings (patients)," and for "changes in himself/herself," we further distinguished between three types of change: 1) changes in medical activities, 2) changes outside of medical practice as a doctor, and 3) changes in daily life. On a separate axis, we distinguished between "changes in thinking" and "changes in behavior;" and combined the two to create "organizing framework (for a bird's-eye view of changes related to doctors themselves)." Then, within this "organizing framework," a group of "one-line headings" (from the "List of One-Line Headings" created in Phase 3) was inserted (see Example 4). This procedure was performed in all 14 cases.

The cell in the Organizing Framework, for example, ["1 Changes in medical activity" x "◎Changes in thinking"] is abbreviated to [1 Medical activity / ◎Thinking]. If the semantic content of the original data can be found in more than one cell (in K, the three cells are [1 medical activity, ◎thought], [2 outside of medical treatment, ◎thought], and [3 aspects of life, ◎thought]), each cell was filled in a way that reflected the semantic content of that data. The meaning of each cell reflects the cell content.

Example 4 = Specific example of the results of the inclusion in Organizing Framework (for overlooking changes related to the doctor himself/herself) (in the case of H)

	Changes in thinking	Changes in behavior
1. Changes in medical practice activities	H2	H4
2. Changes outside of medical practice as a doctor	H2	H1 H3 H4
3. Changes in daily life, whether as a doctor or not	H2	H1
4. Changes in surroundings		

H1: Expanding opportunities for cancer patient support outside the hospital
H2: As peer support for cancer patients is in short supply, there is a need to concentrate on efforts to conquer cancer.
H3: Guiding medical students to become doctors who understand the feelings of their patients.
H4: Creating a comfortable environment for patients in the hospital by obtaining a certain private therapist certification.

Phase 5: Creation of the "Result Table A" (the "14 cases added up" version)

Information on the "one-line headings" group of 14 cases was inserted into each of the eight cells from [1. Clinical Activity, ◎Thought] through [4. Peripheral, ◎Behavior]. Since the "one-line headings" belonging to each cell are added one after the other, this is called the "Result Table A" (the "14 cases added up" version).

For reference, the number of "one-line headings" in each cell is as follows:

[1. medical activity, ◎Thought]=39
[1. medical activity, ◎Action]=39
[2. Out-of-Clinic Activity, ◎Thought]=19
[2. Out-of-Clinic Activity, ◎Action]=23
[3. Life, ◎Thought]=20
[3. Life, ◎Behavior]=6
[4. Peripheral, ◎Thought]=3
[4. Peripheral, ◎Behavior]=0

Phase 6: Creation of the "Result Table B" ("Categorical Recombination and Positioning" version)

While looking at the "Result Table A" (the "14 cases added up" version), a comparative study of the "one-line headings" in each cell was conducted from the viewpoint of "categorical and sub-categorical recombination and positioning." Through this work process, a group of "one-line headings" with similar semantic content was gathered to create relevant categories and subcategories. The Summary Chart in the Results section below is the product of this process.

Points to Note

We would like to list the following five points regarding data compression and refinement, as well as analysis and interpretation.

First, we would like to refer to the relationship between our method of "Multilevel Text Condensation" and Malterud's "systematic text condensation method."[16] We referred above to Malterud's analytical method near the beginning of Data Analysis section. The reason for this is that the basic idea of our data analysis, i.e., a step-by-step method of systematic compression of the target text, resonates with that of "systematic text condensation" proposed in Malterud's paper.[16] While conducting concrete analysis of data in our own way for the "Multilevel Text Condensation," we were also searching the relevant methodological literature to equip ourselves theoretically with what we needed for our qualitative analysis method. In the process, we discovered that our method overlapped with Malterud's basic conception of "systematic text condensation." This is why we included the phrase: "This method is highly compatible with Malterud's." It should be noted that the data analysis conducted in this study was not conducted by adopting or imitating the specific method proposed by Malterud.

The second point is a rough correspondence between the four steps of Malterud's paper and the six phases of this paper's analytical method.

(a) Corresponding to Malterud's "Step 1: Forming an overall impression" and "Step 2: Identifying meaning units" is our paper's "Phase 1: Narrowing down the data to "Wounded Healer Effect Data Group." In Phase 1, we loosely identify the phenomenon and/or subject matter (Step 1) that is the focus of our research (Step 2).

(b) The next step is "Phase 2: Creation of "one-line headings," which corresponds directly to "Step 3: Abstracting the contents of individual meaning units." Although Malterud characterizes this step as "abstracting," we consider our work as a "compression of meaning" in the sense that the points of semantic content of the original text are portrayed as faithfully as possible in the form of the creation of "one-line headings."

(c) Following this phase of creating "one-line headings," we added two more phases: "Phase 3: Creating a list of one-line headings for each case" and "Phase

4: Insertion of "one-line headings" within the Organizing Framework (for a bird's-eye view of changes related to the doctor himself/herself)."

(d) Finally, corresponding to "Step 4: Summarizing the findings" are the following three specific works. They are "Phase 5: Creation of the "Result Table A" (the 14 cases added up)," "Phase 6: Creation of the "Result Table B" ('"Categorical Recombination and Positioning'" version)", and the summary sentences of Results section.

The third point concerns the circumstances in which the Organizing Framework (for overlooking changes related to the doctors themselves) mentioned in Phase 4 is generated. In the presentation of Phase 4, as it was our main concern to provide an overview of the data analysis succinctly, we just referred to two kinds of change related to doctors in the form of "changes in themselves" and "changes in their surroundings (patients)," as well as two modes of change in "thought" and "behavior." We did not explain how we came up with this framework; we would like to emphasize that this organizing framework was not set up in advance or before looking at the various manifestations of change in the doctors who became patients. It was created during the analysis of data, through repeated scrutiny of the data and information compressed in the form of the "one-line headings" mentioned above (117 in number). This includes reconfirmation of the semantic content, as well as through a search for what sort of organizing axis would allow the one-line headings to be positioned and organized without excesses or deficiencies. In other words, we arrived at the compact framework of the Organizing Framework (for Overlooking Changes Related to the Doctors Themselves) through repeated trial and error in the inductive mode in an attempt to located a group of information that was judged to be related to changes in the doctors themselves.

The fourth point is the difference in the influence of the interpretation component between the work up to Phase 5 and in Phase 6. In the process of compressing (i.e., narrowing down) the semantic content of the data up to Phase 5, it is relatively easy to trace the correspondence in terms of semantic content with the original data, even if the researcher makes a particular interpretation. We could say that the degree of influence of the component of "interpretation" is low. In Phase 6, the researcher's attempt to analyze the main characteristics of the target phenomenon must come to the foreground, rather than mere data compression work. In this study, this is done in the form of recombination/positioning through a category/subcategory perspective version.

The researcher attempts this based on his/her subjective and premonitory grasp of the overall picture of the phenomenon itself. In this sense, the work of Phase 6 is on a qualitatively different level of interpretation than that of Phase 5.

The last point concerns the insurance of the objectivity, or more precisely, the intersubjectivity of the text compression process. The following procedure was performed: First, the first author (AT) compressed the verbatim transcripts, and then the second author (SM) re-checked the accuracy of the work and, via Zoom, gave feedback to the first author. This feedback ensured that if a correction was needed, there were no gaps between the semantic content and intentions expressed by the research participants and the data interpretation by the authors.

Results

The following five points summarize our main findings.

- Doctors who had experienced serious illness tended to think that they had gained more from the illness than they had lost.
- Regarding their thinking, although there was a "loss of confidence" in their clinical practice, they gained diverse knowledge (technical knowledge, knowledge about the disease, knowledge about drugs and treatment, the need to improve the treatment environment, and so on); they confirmed their "intention to continue their clinical practice," and they wanted to "set an example of how to return to work post illness."
- These changes translated into behavioral changes; improved communication (including with patients), and conscious efforts to talk to patients were observed as a result of a better understanding of the patients' perspective.
- In addition to medical treatment, they began new activities including raising awareness, peer support, education, lectures, and study.
- The biggest change in their lives was the way they looked at life in general. Many doctors felt that their lives had changed after battling their illnesses.

This was expressed in various ways. Some realized the irreplaceability of their everyday lives after battling cancer; they felt that their lives had become compact because they had to set short-term goals and meet them; they also acquired the habit of reflecting on the fact that their disease may have been the result of problems in their lifestyle.

We discuss the results in more detail in the following summary chart.

Table1. Summary Chart

		Changes in thinking	Changes in behavior
		a. Much has been gained from the fight against the disease	
Personal changes	1. Changes in medical practice	b. Loss of confidence	b'. Restrictions in medical practice
		c. Acquisition of knowledge Medical knowledge Technical knowledge Disease-related knowledge Knowledge of drugs and treatment	c'. Utilization of acquired knowledge Disease-related knowledge Knowledge of drugs and treatment Making the treatment environment more conducive
		d. Understanding the patient's perspective	d'. Improvement in communication Reaching out to patients
		e. Willingness to continue practice New challenges Increased amount of work	e'. Continuing medical treatment Challenges in new areas
		f. Being a model of returning to work post illness Disclosing about fight against the disease to patients	f '. A role model of returning to work post illness Disclosing about fight against the disease to patients
			g. Assimilating patient's experience better
			h. Deriving strength from the support of those around them
	2. Changes outside of medical practice, as a doctor	i. Awareness of life's prognosis Advanced medical care should be given to younger people Awareness of death Awareness of the need for health checkups	i'. Awareness activities Promotion of end-of-life notification of intent Recommendations for cancer screening
		j. Necessity of peer support Recognizing the need to improve the medical care environment Disseminating experiences of battling the illness	j'. Peer support activities Supporting the Patient Associations Comment on Fighting Disease" blog Disclosing about fight against the disease
		k. "I want to do whatever I can"	k'. Education and lectures Educating medical students with lectures on the experience of fighting cancer Cancer education
		l. "Being a doctor is an advantage in fighting the disease"	l' Delegating personal medical care to specialists
			m. Learning Learning about diseases Learning about life and death
	3. Changes in daily life, either as a doctor or not as one	n. Accepting the illness/disability	n'. Experiencing aftereffects
		o. Reflecting on the way of life	o'. Changing the way of life Making it a habit to stop and reflect Setting aside time for household chores and hobbies
		p. Perception about life Increased compactness of life Life planning	p'. Setting and clearing short-term goals
		q. Health perceptions	
		r. Be a model of returning to work post illness	r'. Setting an example of returning to work post illness
			s. Strengthening family ties
Changes in the surroundings (patients)	4. Changes in surroundings	t. Patient camaraderie	
			u. Encouragement from patients

Interviews always ended with two questions: 'What have you gained from your illness?' and "What have you lost because of your illness?"

Suffering from a serious illness can cause physical loss of strength and decline. Upon reflection of the loss associated with illness, participants indicated a decline in life expectancy (J) and an inability to continue usual medical practice (due to consequent paraplegia) (N). However, most doctors stated that they "have not" or "cannot think of anything" that they have lost during their illness. In other words, they believed that *(a) much has been gained from the fight against the disease.*

Changes in Clinical Practice Activities

The changes in thinking with regard to clinical practice activities included *(b) loss of self-confidence, (c) gaining knowledge, (d) understanding the patient's perspective, (d) confirming the intention to continue practicing,* and *(e) setting an example of returning to work post illness.*

Most doctors considered themselves invincible when considering a *loss of self-confidence*; however, their confidence shattered when they became ill.

Knowledge acquisition included medical knowledge, such as "technical knowledge," "knowledge about the disease," "knowledge about drugs and treatments," and "the need to improve the therapeutic environment." Examples of "technical knowledge" include the realization of the usefulness of rehabilitative care after they experienced firsthand successful rehabilitation. Doctor F, who was diagnosed with cancer caused by an underlying chronic disease, believed that suffering from a chronic disease was more painful than being diagnosed with a curable type of cancer. Doctor G believed that their cancer was not cured and that it would recur. Several doctors' responses indicated reflection on "findings related to the drugs." For example, "I didn't realize how effective painkillers are until I got sick" (B2) and "There is no explanation of something like, 'Your hand becomes very sensitive and painful.' That's what bothers patients the most, actually, more than the serious side effects" (L5).

Understanding the patient's perspective implies a shift in perspective, which is essential for the "wounded healer." The acquired patient perspective clearly differed from that of the doctor: "The patient derives satisfaction not from the fact that the disease will disappear, but from the ability to live the kind of life they want, without any excesses or deficiencies" (L3); "When I was unable to move around on the hospital bed, the nurses would talk to me about my physical condition." Doctor (L) said that he realized that such gestures and checking of his physical condition were the essence of medical care. Furthermore, Doctor D felt that leading and supporting roles were reversed in the patient-doctor relationship. He said when he actually became a patient, "You do not have to do that. If something goes wrong, it is okay if it goes wrong. You should do as the patient says." (D8).

These are things that do not surface unless one has acquired the patient's perspective, which provides valuable insights.

We will now discuss the consequent behavioral changes.

Loss of self-confidence translated into *b') restrictions in medical practice*. Doctor K retired from public service due to concerns about his physical strength, another (Doctor N) changed his diagnostic style, and more than a few (including A) quit performing surgery and restricted themselves to diagnosis and postoperative follow-up.

Regarding *c') utilization of acquired knowledge*, Doctor G told the patients that the cancer may recur, and Doctor A encouraged them to accept the fact that they had a disability and an incurable disease. One case of a doctor who established an accommodation facility that enabled private practice showed an improvement in the treatment environment.

Understanding the patient's perspective translated into *improved communication*. Doctor F claimed that communication had improved not only with the patient but also with his friends, doctors, and medical staff. Another believed that the greatest thing he gained from battling his illness was the ability to be more empathetic toward his patients. He began choosing his words wisely, and considering their feelings when talking to them. After returning to his daily life as a "doctor reborn," thanks to his own rehabilitation, Doctor K began sincerely encouraging his patients during the rehabilitation process.

Changes Outside of Practice, as a Doctor

As doctors, changes were made outside of clinical practice. First, changes in thinking included: *i) awareness of prognosis, j) need for peer support, k) willingness to do whatever one could do,* and *l) the idea that being a doctor was a positive factor in fighting the disease.* These changes in thinking promoted behavioral changes, such as *i) awareness-raising activities, j) peer support activities, k) educational and lecturing activities,* and *m) learning.*

Regarding *awareness of prognosis*, some doctors (including Doctor J) advocated for a social movement, believing that "advanced medical care should be provided to younger people," and they could build this movement persuasively because they themselves were facing challenges in life. Doctor M, who was post-cancer diagnosis, became increasingly aware of death and began conducting activities to promote the declaration of end-of-life wishes (J).

Peer support showed that "supporting patient associations" is a classic example of behavioral changes. Many doctors were interested in actively engaging in peer support, and they believed that they should "share their experiences of fighting cancer for peer support" and "talk publicly about their experience with cancer." The

anonymous blog of a doctor (F), who identified himself as a doctor who helped cancer patients in their fight against the disease, is another relevant example.

Regarding *(k') education and lecturing*, many doctors who became patients participated in education and lectures. Some were in a position to "educate medical students," and many others conducted "lectures on their experiences with the disease."

Discussions

Our most important finding was that doctors who experienced a serious illness were more likely to believe that they had gained more from the illness than they had lost. Such a change in thinking was evident in both "Changes in Clinical Practice Activities" and "Changes Outside of Practice, as a Doctor," which indicate positive changes brought to our attention as "Wounded Healers."

The diagnosis of a fatal disease is a career-altering event. Despite this, positive changes have been reported by Ramos et al., who claimed that people exposed to highly traumatic events, such as illness or other stressful or life-threatening events, sometimes experience positive changes owing to their struggles.[18]

What positive changes do doctors experience? Several relevant episodes have been reported in literature. For example, an orthopedic surgeon claimed that his own experience with knee replacement surgery provided him with deep insights into patient expectations, the importance of preoperative counseling, the severity of perioperative pain, and problems during the rehabilitation period.[19] Additionally, in the BMJ's readers' column, a neurologist wrote that after undergoing a routine procedure, "It might be a good idea, where practical, for doctors to get a taste of our own medicine and experience the procedures to which we subject our patients with nary a thought for the pain or discomfort it may cause."[20] A qualitative study by DasGupta et al. on medical students and residents suggested that writing out personal narratives about experiences of illness can improve empathy and patient-centeredness.[21] These episodes and research reports are consistent with the results of this study. However, in our study, we analyzed a small group of interviews with doctors using the method of "Multilevel Text Condensation" rather than just episodes and narratives. We think that this method has succeeded in organizing the relevant data and presents a bird's-eye view of the "Wounded Healer" effects.

Conversely, there are studies on negative outcomes due to illness experience. For example, a study by Hauken et al. on younger (18-35 years) cancer survivors,

although not doctors, showed a very large incidence of negative physical, psychological, and social outcomes compared to positive outcomes.[22] They admitted experiencing fatigue, intrusion of negative thoughts and feelings due to cancer treatment, anxiety about the future, and social impairment. The contrasting nature of our results may be due to the different target age groups, but there is a possibility that our results were different because our participants were doctors.

To what can we attribute the positive changes of doctors as "Wounded Healers"? Based on their analysis of doctors' personal narratives, Kern et al. concluded that personal growth occurs through powerful experiences, supportive relationships, and reflection.[23] Growth includes changes in values, goals, and direction; healthier behaviors; improved relationships with others; improved sense of self; and increased productivity, energy, and creativity. This study supports our findings, as we believe that fighting an illness is a powerful experience and could be considered a "major life event."

Our participants experienced loss of confidence as their assumption about doctors' invincibility was shattered; they faced and acknowledged their own vulnerability. Additionally, all 14 participants disclosed, under their own names, that they had been affected by one of the three serious illnesses considered in this study. Perhaps, their ability to disclose their situation led to positive changes.

Danealt noted that creative energy and power come from doctors' humble acknowledgement of their personal wounds and vulnerabilities.[24] Manheimer also noted, based on his experience with pharyngeal cancer and overcoming the distress and confusion he felt, "If anything, it's that recognition of vulnerability as well as expertise that makes me a better doctor today."[25]

Doctors who are ill are often reluctant to disclose this fact to others, including their patients, because of potential stigma. According to Henderson, doctors are more likely than the general public to view mental illness as a stigma that extends to physical illness as well.[26] This is self-stigma, a phenomenon in which the person in question accepts and internalizes external social stigma and loses self-esteem and self-efficacy.[27] In his study on the difficulties doctors face in returning to work post-illness, Henderson stated that, hypothetically, doctors' self-stigma is a direct consequence of the unhealthy belief that "doctors are invincible."[28] The reason for this is that this profession demands toughness and independence in a highly competitive environment. Before such stigma becomes an obstacle to returning to work post-illness, doctors do not recognize the illness, which can lead to

health problems. This is also a common culture among doctors in Japan, where reforms in how doctors work have been promoted.

Of the 14 participants in our study, 13 either returned to work post-illness as doctors or continued to practice while living with their disease, except for one who succumbed to the illness. In some cases, the aftereffects of the illness included paralysis and other bodily problems. However, methods to overcome stigma still need to be considered.

We found that the experience of fighting serious illness helped doctors understand the patient's perspective, resulting in empathy. It also improved communication with the patient and led to more conscious interactions with patients. As shown in other studies, empathy and improved communication are consistent factors in doctors' transformation.[14 28 29] Klitzman, a professor at Columbia University (US), suffered from depression in his 40s, but it took him three months to become aware of it. He said that overcoming stigma taught him the importance of empathy and communication, and helped him understand the trauma of his illness.[30] A study by Woolf et al. indicated that doctors felt that their personal experience of illness made them more empathetic and patient-and-family centered.[31]

There are several views on how to maintain distance from the patient, and in this study, Doctor I stated that they themselves "should become patients completely, and not, as is typically expected, stay close to the patients," while Doctor B felt that a certain distance should be maintained. Ingstad and Christie noted that when doctors who have battled illnesses return to work, their distance from their patients narrows significantly, but they are aware that they cannot be "co-patients" who share the same perspective.[32] Daneault indicated that the "wounded" doctor becomes the patient's brother rather than the patient's master, and this fundamental change in perspective benefits both the doctor and patient.[24]

There is a wide gap between intellectual knowledge taught in medical schools and experiential knowledge. The latter involves deep insights and wisdom as well as emotional aspects. However, the possibility of teaching empathy remains debatable. While some argue that only the unique experience of being a patient makes medical students empathetic and they should be allowed to experience sleeping in a hospital room, others believe that it can be inculcated without relying on such experiences/measures.[20]

Another important finding of this study is the increased insight into death. As death has become more tangible and accessible, some doctors (B and M) suggested the need for mortality studies and death education. In Klitzman's study, some said that facing one's own death made it easier to face the death of others, and do not resuscitate (DNR) measures in end-of-life care were discussed and responded to in a timely manner. However, it was noted that doctors believe that such instances would not happen to them, and issues related to death and dying are not adequately addressed in medical schools. Klitzman expressed the view that residents should learn about hospice care.[30]

In this study, behavioral changes included involvement in education in various forms. In particular, the effect of medical school education was also noted by DasGupta.[21] Giving students and residents the opportunity to explain and share their experiences with their illnesses may counteract the traditional ways in which doctors' minds and bodies are distanced, leading to more empathetic and self-aware medical practice.

Limitations

This study has some limitations.

First, this was an exploratory qualitative study of only 14 doctors who became patients. Although we were able to focus on "wounded healers" to obtain a bird's eye view of their impact, we believe that large-scale quantitative research is needed to derive more evidence.

Second, while interviewing doctors who had publicly disclosed their experiences with illness had the advantage of gaining a deeper understanding of their situation, it did not reflect on the views of doctors who had not publicly disclosed their own struggles with the disease, such as the stigma attached to their own illnesses.

Third, there is also room to consider the differences between doctors and patients.

Furthermore, among the three major diseases covered in this study, the course of cancer and ischemic heart disease/stroke are qualitatively different. There are also differences in the severity of the same disease, which may require further sub analysis.

Conclusions

This study explored how doctors who battled a serious illness experienced changes in their thinking and behavior.

Psychiatrist Carl Jung introduced the concept of the "wounded healer," rooted in the belief that one can use the wisdom gained from one's illness experiences to heal others. This finding implies that negative illness experiences can lead to positive outcomes. This effect was

analyzed using descriptive data from in-depth interviews with 14 doctors.

There was a marked tendency among doctors to believe that they had gained more from the illness. Positive changes were identified in both thinking and behavior and spanned across several aspects, such as changes in medical practice activities, changes outside of of practice as a doctor, and changes in other aspects of life, as a doctor or otherwise. Such changes in thinking lead to behavioral changes. Thus, the positive outcomes confirmed the "wounded healer" effect. This finding has implications for medical education, facing death, and countering the stigma attached to battling illnesses. Therefore, a more detailed study is necessary.

Finally, we would like to reiterate the following four points.

(1) We focused on the "Wounded Healer" concept and tried to analyze the "possible clinical implications" of the relevant data from that perspective.

(2) The data analysis was conducted using the "Multilevel Text Condensation" analysis method based on the basic idea of "systemic text condensation."

(3) In the fourth phase of the process of the Data Analysis section, we introduced a relevant scheme called the "organizing framework (for a bird's-eye view of changes related to the doctor himself/herself)."

(4) We presented a bird's-eye view of the "Wounded Healer" effects in Table 1. Summary Chart in the Results section.

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