Physical Examination and the Physician-patient Relationship: A Literature Review

Junko Iida[2], Hiroshi Nishigori[3]

**Corresponding author:** Prof Junko Iida iida@mw.kawasaki-m.ac.jp  
**Institution:** 2. Kawasaki University of Medical Welfare, 3. Center for Medical Education, Graduate School of Medicine, Kyoto University  
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**Abstract**

**Background**

Physical examinations in clinical settings are becoming relatively infrequent due to recent advances in diagnostic tests. However, for many physicians and patients, physical examinations remain a vital part of consultations. In addition, as a proportion of physicians consider these examinations to improve doctor-patient communication, they remain an important part of training for medical students.

**Methods**

We reviewed literature from medical and social sciences regarding the influence of physical examination on the doctor-patient relationship. Searching of 3 databases and 5 journals identified 1,447 studies, of which 57 are included in this review.

**Results**

Although historical studies have suggested that technological advancement increases the psychological and physical distance between doctors and patients, ethnographic studies have demonstrated a continued and close relationship between the two. A number of medical reports noted that close proximity during physical examination, particularly touch, strengthens doctor-patient relationships, reduces patient anxiety, and can have a healing effect on patients. In contrast, social scientific studies focused on patients, who considered this proximity invasive.

**Conclusions**

Increased collaboration between medical and social sciences, analysis of patient experiences, and research in non-Western countries might help characterize the benefits, or lack thereof, of physical examinations.
Keywords: physical examination; physician-patient relationship; interdisciplinary collaboration; communication; literature review

Introduction

In recent years, physical examinations tend to be performed relatively infrequently in clinical settings, especially in developed countries, in light of advances in diagnostic test technology. These tests, including blood tests and diagnostic imaging, are thought to provide easily gathered "objective" information in contrast to the more labor-intensive "subjective" information gleaned from physical examination. However, some physicians still highly value physical examination (1), believing the exam provides an effective, inexpensive, and minimally invasive method of collecting medical diagnostic information. Further, many physicians believe that the physical examination provides doctor and patient with an opportunity to communicate with one another, which reduces patient anxiety and can produce a "healing" effect. In fact, Phoon argues that a physical examination, "is still part of the doctor-patient relationship and still desired by patients, in spite of technological advances" (2).

Here, to examine research trends in physical examination and doctor-patient relationships, we reviewed the medical and social sciences literature regarding the influence of physical examination on the physician-patient relationship.

Methods

Search strategy

We conducted a literature review regarding the influence of physical examination on the physician-patient relationship, a method we chose because we reviewed articles in both medicine and anthropology, the latter of which is not amenable to the PRISMA Guidelines (for example, no randomized trials have been conducted in studies of anthropology).

We conducted a literature search of PubMed, PsycINFO, and Ichushi-Web (a Japanese database) for studies published up to May 2014. The following search terms were used: "physician-patient relations" and "physical examination" (MeSH terms used for PubMed); "physical examination" and "physician-patient relationship"; "physical examination" and "doctor-patient relationship," not including related terms (for searching PsycINFO); and "shintai shinsatsu" (physical examination) and "ishi kanja kankei" (physician-patient relationship) (for searching Ichushi-Web). The search results from PubMed were limited to Major Topic. In addition, major journals from the field of medical anthropology as well as from related fields of study were searched individually. The reference lists from each of the papers identified through the search were also examined individually for further references. We also included any other review papers which were already known to us.

Inclusion criteria for this study were that articles be published in either English or Japanese and that they explicitly describe the influence of physical examination on the doctor-patient relationship. Articles were excluded if only the diagnostic aspect of physical examination was described.

Data extraction and analysis

We identified 1,447 papers through our online searches. After examining the titles of the articles, we selected 205
for further review, adding an additional 18 papers that had been identified through manual searches. We then examined the abstracts of these papers independently and sorted the papers by relevance: very relevant, relevant, less relevant, and irrelevant. After this process, 57 papers describing the influence of physical examination on the physician-patient relationship, classified as "very relevant" and "relevant" by consensus between both authors, were identified and subsequently reviewed in our study.

Results and discussion

Concept of the body and physical examination

The concept of the body and the role of physical examination in medical practice has been examined by several historians. According to Reiser (3) and Duden (4), it was only in the eighteenth century that physicians began to conduct these examinations; until that point, greater emphasis was placed on patients’ stories and visual observation, with relatively little—if any—physical contact between physician and patient. Those authors argue that this was not only because physical contact was taboo in pre-modern Europe, but also because physicians relied on humoral theory for diagnosis, so it did not occur to them that they could localize disease in the body of the patient.

After the eighteenth century, various methods of physical examination, including percussion and auscultation, were developed. Armstrong suggests that, "(t)he basis of this change in medical procedure was the newly discovered pathological anatomy by which diseases became localizable in the body of the patient" (5). As a result, medical practitioners started to relate clinical findings to changes in the internal structure of the body and so began the practice of physical examination. Foucault (6) demonstrates how the development of this pathological anatomy and the start of physical examination at the end of the eighteenth century interrelate with the concept of the body. With these changes, the body became recognized as something discrete, objective, passive, and analyzable. In Foucault's work on power in European society in the nineteenth century, physical examination is considered a technique that serves as a "disciplinary apparatus" through which power is exercised (5,7), suggesting that physical examination was part of the mechanism by which the body's passivity was achieved through monitoring.

Historical studies suggest that technological advances widen both the psychological and physical distance between physician and patient. Foucault describes the stethoscope as 'solidified distance' that 'authorizes a withdrawal' away from the patient (5). Physicians shifted emphasis, Reiser (3) suggests, from patients’ experiences and feelings to physical examination, as information gathered through physical examination was seen to be much more 'objective' than that offered in the form of patients' stories. Reiser has demonstrated that this distance between physicians and patients increased further as the development of other diagnostic technologies, including the X-ray, sphygmanometer, and electrocardiogram, substituted for auscultation and palpation. Further, the introduction of chemistry into medical practice meant testing became the responsibility of other healthcare professionals rather than of the physicians themselves.

As the sociologist Schubert demonstrates with his ethnographic study of contemporary anesthesia, however, technological advances do not necessarily mean increased distance between physicians and patients (6). Exploring the history of auscultation from the age of Hippocrates (when a doctor pressed his ear against a patient's body) to the invention of the stethoscope, the anthropologist Rice points out that, while the stethoscope distances the doctor from the patient, it also holds the two in relative proximity, because the doctor must touch the patient to listen to the body (8).

In line with work like that of Rice and Schubert and in contrast to the historical studies above, which focus on the
aspects of physical examination that distance physicians from patients, the studies in the following sections emphasize the proximity produced between doctor and patient resulting from physical examination.

**Physical examination and patients’ expectations**

Several studies have explored the expectations patients have in regard to their consultation with a physician and found that many expect to be physically examined by their doctor. A quantitative study (9) reported that overall visit-specific satisfaction was positively related to the time doctors spent on the physical examination (P≤0.05), concluding that patients were more satisfied with medical visits in which they were physically examined. In a qualitative study, Kravitz and Callahan explored patients’ perception of a visit with a doctor when physical examination was omitted. Angry patients are quoted as saying, "he didn't do anything. He never touched me in any way," or, "he didn't look in my ears, which I thought was odd, considering it was dizziness" (10). The authors further note that patients with unmet expectations shared the principle that, "if my doctor cared enough about me, he/she would investigate my symptoms more thoroughly" (11). Both studies exemplify how physical examination and patient satisfaction can be related to one another.

Friedman (12), a sociologist who has explored non-verbal communication—including touch, gaze, voice, and olfaction—between patients and medical practitioners, contends that patients might feel substantially better after a routine physical exam because it is an occasion to be touched by a person of high status, which has symbolic value.

**Touching as healing communication**

Physical contact occurs in most types of physical examination and is regarded by many authors as a particularly important element of the proximity between doctor and patient. Written primarily by physicians, one set of papers discusses the significance of touch as a form of communication, providing comfort and building and fortifying relationships between doctors and patients.

Bruhn’s work provides a review of the historical meanings of tactile communication to both doctor and patient. He traces the importance of the doctor’s touch from "the origins of the clinical examination" (13), including ancient Chinese pulse examination, auscultation in Hippocratic medicine, the curative laying on of hands described in the Bible, and the "Royal Touch" for the King's Evil or scrofula in England and France in the Middle Ages, to more recent times. Bruhn suggests that while touching has diagnostic value for the physician, it also has therapeutic value for the patient, since physical touch can be used to communicate comfort and reassurance (14).

Similar to Bruhn, many physicians today also recognize physical examination, especially palpation, as a powerful way of communicating with patients. Kravetz, a gastroenterologist, describes the benefits of touch. He writes, "touch can convey recognition, empathy, and caring. It provides a sense of security that can alleviate stress, concern, and fear" (15). This feeling of comfort and reassurance is seen to be strongly related to the fact that touch helps to build and strengthen the relationship between physicians and patients. Editors of the *Medical Journal of Australia* note that the “laying on of hands’ improves communication and trust between doctors and patients, somehow ‘connecting’ them,” physically as well as in other ways (16). Many other publications also reference the significance of touch for building and strengthening the physician-patient relationship and the therapeutic aspect of physical examination (13, 17-24).
In his review, Bruhn concludes that to touch and be touched is part of the process of staying or getting well and discusses the importance of touching in the context of changing medical technology (12). In the same vein, Phoon predicts that although physical examination may have less of a diagnostic role in the future, it will remain an important source of physical contact and will therefore continue to hold a vital place in social interaction and therapeutics (2). Pappas and Seal suggest that the relatively slow adoption of telemedicine in the United Kingdom is partly caused by the fact that such methods prevent physical contact between doctor and patient (25). Many authors, particularly those who are physicians, criticize the fact that physical examination is often overlooked in today's clinical practice and suggest that this may cause miscommunication between physicians and patients (14, 15, 21-23, 26).

Most of the medical publications addressing touch and the physician-patient relationship are written as anecdotes, which seem to be instinctively acceptable from the perspective of the second author of the present article, who is an actively practicing clinician. Indeed, a number of persuasive anecdotes have been published supporting touch as a means of communication and care (22). However, they are not based on scientific research but are subjective opinion- and impression-based writings.

In contrast, Iida’s anthropological research (27) addresses with qualitative data the significance of touch involved in physical examination in terms of doctor-patient relationships. Based on fieldwork at hospitals and a clinic in Japan, Iida’s findings reveal that a doctor touching the affected body part is often reported as a reassuring experience for the patient. Patients want doctors to acknowledge their complaints, and physical contact is perceived by the patient as evidence that the doctor has actually examined the problem. Iida’s research also suggests that palpation sometimes leads a patient to trust a doctor and that this trust can become the foundation of healing, facilitating both physical and mental recovery.

**Invasiveness of physical examination**

However, in contrast to the above reports, physical proximity can also negatively influence the doctor-patient relationship, and a number of publications address this issue. In his ethnographic fieldwork at a hospital in London, Rice focused on the negative aspect of intimacy caused by auscultation. He reports that some female patients in particular felt the examination was invasive (9). Further, Rice references current medical discourse that regards auscultation as an opportunity for contagion spread (9). A study on the relationship between doctors and pediatric patients reveals that a physician’s intrusiveness (i.e. approaching a child suddenly or in an uninvited way) during a physical examination is related to concurrent child uneasiness and lasts through the postexamination phase of the consultation (28).

A number of studies also focus on the anxiety and discomfort felt by female patients during physical examination. For example, Gabbard and Nadelson (29) reported that a female patient with a sore throat receiving a breast examination without knowing its purpose felt like she was being molested. Another female patient described her gynecologist as "nosy and intrusive" when he asked her about her sexual history during a pelvic examination. Several researchers recommend having a chaperone present during the physical examination of sensitive body areas, especially when patients are extremely anxious (29,30). Another study explored how the body part to be examined, as well as the age and sex of the patient, affected whether or not a patient wishes to have a chaperone present during the examination (31). Giuffre and Williams conducted 70 in-depth interviews with physicians and nurses to investigate how physical examinations can be desexualized to limit discomfort and anxiety (32).
Organization of the social interaction between physician and patient

Sociology has contributed substantially to studies on the interaction between physician and patient in the contemporary clinical setting. Many sociologists have explored the non-verbal communication that occurs between physician and patient (33-37). However, the main focus of their work is not the physical examination itself but discrete non-verbal behaviors, such as leaning forward, uncrossing arms, and nodding one's head, that precede and follow it. The description of non-verbal communication as being interrupted by physical examination (38), for instance, indicates that physical examination is not recognized as non-verbal communication in their studies.

The physical examination itself has been the focus of other sociological studies that use conversation analysis, which analyzes utterances and actions, moment by moment, to explore how social interaction is organized between doctor and patient during the examination. Some of these studies demonstrate how the doctor and patient collaboratively smooth the flow of activity (38-41). According to Heath, for example, patients tend to adopt a characteristic middle-distance look during the physical examination, so as to appear to be inattentive while continuing to monitor the actions of the doctor in order to determine and respond to the forms of participation required (38). Other studies have shown how physicians' verbal and non-verbal behaviors during physical examination function as a technique for communicating with patients (42-45).

Conversation analytic studies have helped clarify that it is how the physical examination is performed rather than simply whether it is performed that influences the doctor-patient relationship. However, the main focus of these studies is on how social interaction is organized and not on the participants' feelings during the physical examination. In addition, the scope of these studies is limited to detailed analyses of the utterances and actions of the physician and the patient moment by moment, in specific settings, and tends to lack a macroscopic perspective.

Physician-patient relationship in physical examination education

A body of literature has been published insisting upon the importance of physical examination education, not only for the improvement of diagnostic skills but also for building the physician-patient relationship. In her review paper on medical education, Ramani mentions that physical examination is important in doctor-patient interactions (46). Ban emphasizes the importance of recognizing the significance of physical examination skills, including their role in the construction of a rapport between the physician and patient as well as their therapeutic function, and to select essential minimum methods of physical examination to most effectively and efficiently teach the skills to medical students (17). Similarly, in his papers on the significance of physical examination for physician-patient relationships (21,22), Verghese notes that medical education, which undervalues physical examination, is responsible for the deterioration of physicians' bedside skills. Verghese and his colleagues have found that, by focusing on just 25 technique-dependent physical signs, they can create an awareness and appreciation for the nuances of the physical examination (47,48).

While it is important for students to have the hands-on experience of physical examination with patients, Rice suggests, through the example of a teaching session of auscultation with real patients at a university hospital, that repeated physical examination by students is experienced negatively by patients, who felt as if they were "reduced to clinically interesting acoustic ‘things’" (49). To avoid such problems, simulated patients are now widely used for teaching and assessing physical examination skills in simulated teaching environments, where students can learn about the physician-patient relationship by getting feedback from simulated patients (50). Educational programs with simulated patients are also useful for teaching students to cope with the negative aspects of proximity caused by physical examination. In teaching intimate examination, Hendrickx et al. (51) developed a program in which
students learned gynecological and urological skills using healthy volunteers. They note that the students gained confidence not only in clinical skills but also in communicative skills, attitude, and patient-doctor relationships.

Nishigori et al (52). developed a model teaching session for the hypothesis-driven physical examination approach, in which students can practice physical examination in the context of diagnostic reasoning. During the sessions, students learn how to conduct a physical examination by role-playing physician and patient. In this "peer physical examination" (PPE) process (53), students, when playing the role of a patient and being examined by their classmates, learn to appreciate the patient's perspective. It should be noted, however, that women may be less comfortable with PPE than men because they tend to have a higher degree of body shame and body surveillance (54).

Several different, occasionally conflicting claims about the distance between doctor and patient were made in the literature we reviewed. However, finding papers offering a balanced understanding of the influence of physical examination on the physician-patient relationship can be quite difficult.

First, while historical studies suggest that technological advances widen the distance between physician and patient, some ethnographic research has revealed a closeness between physician and patient, regardless of technological development, a discrepancy which arises due to differing perspectives. While historical studies contextualize physical examination and doctor-patient relationship in the historical process of the changing concept of the body from a macroscopic perspective, ethnographic research explores how doctors and patients actually experience physical examinations and how they feel about the experience in contemporary societies. From a macroscopic perspective, technological advancement may widen the psychological and physical distance between doctor and patient; from a micro-analysis perspective, on the other hand, this is simply not the case.

Second, several claims have been made regarding the effect of the physical proximity between physician and patient during a physical examination on the doctor-patient relationship. Many medical articles note that proximity, especially touch, strengthens the relationship and can even have a healing effect on patients. In contrast, social-scientific research focuses on the experience of patients who feel that the proximity is invasive. The medical articles, mostly composed of anecdotes, could be regarded as clinicians’ paternalistic discourses on the physician-patient relationship, since doctors are in a privileged role as caregivers to patients. In contrast, medical anthropology and sociology critically address the asymmetry between medical professionals and patients, as well as the unequal power balance between men and women in society. Based on these interests, social-scientific studies focus on negative feelings during a physical examination, including feelings of invasiveness, anxiety, and discomfort. While these critical perspectives are important, they may provide only a one-sided view given the research conducted on the role of touch and patient expectation.

Although conversation analysis studies lack a macroscopic perspective and focus on patients’ feelings during physical examination, they demonstrate that it is not whether but how the physical examination is performed that influences the doctor-patient relationship. Therefore, education surrounding physical examination is important. We found many papers insisting on the importance of physical examination education to improve both diagnostic skills as well as the physician-patient relationship. However, these studies primarily focus on the positive aspects of physical examination in terms of the physician-patient relationship, possibly because these studies were conducted predominantly by medical professionals. More social scientists should be involved in physical examination education to improve medical students’ communication skills and bedside manner. Both medical and social-scientific articles offer an imperfect, unbalanced understanding of the experience of physical examination and the effects this experience has on the physician-patient relationship.
Conclusions

We examined both medical and social-scientific literature regarding the influence of physical examination on the physician-patient relationship. Overall, medical articles seem to positively value physical examination in terms of the physician-patient relationship, while social-scientific work includes many studies focusing on the negative aspects of physical examination. Although the literature on touching communication in the medical literature is persuasive, the findings are based not on scientific research but rather on subjective opinion- and impression-based writings. In contrast, social-scientific work, which focuses largely on the negative aspects of physical examination, may lead to an unbalanced picture of the experience of physical examination. As a result, neither the medical nor social-scientific viewpoint alone is sufficient to deal with this topic. The contrasting nature of the work from these two fields reveals the division and lack of dialogue between the medical and social sciences. Therefore, we suggest that more interdisciplinary communication will be required, as we have attempted in this paper, in order to develop a clearer, more balanced, and broader perspective on subjects common between fields. The same can be said within the field of social science. Diverse disciplines need to come together to clarify the influence of physical examination on the physician-patient relationship and thereby overcome any deficiencies in the macroscopic perspective of historical studies and microscopic perspective of conversational analysis studies.

Of note, the literature we reviewed was primarily based on research conducted in European and American societies, with almost no exceptions. Comparative studies, although few, have revealed that attitudes toward physical examination and communication patterns between physicians and patients in Dutch (55), Japanese (56), and Dominican (57) societies differ from attitudes in American society. More studies conducted outside of Europe and North America are therefore needed.

Based on our literature review, we suggest that future research should focus on more interdisciplinary collaboration between medical and social sciences, offer analyses of participants’ feelings from both macroscopic and microscopic perspectives, and include more studies from non-Western societies.

Take Home Messages

Notes On Contributors

Junko Iida is a medical anthropologist working as a Professor at the Comprehensive Education Center, Kawasaki University of Medical Welfare.

Hiroshi Nishigori is a medical educator and an academic general practitioner working as an Associate Professor, Center for Medical Education, Kyoto University.

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Appendices

Declarations

The author has declared that there are no conflicts of interest.

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