

5-30-2023

Improving Surgeon-Patient Communication in Thyroid Cancer Diagnosis and Treatment Discussions: A Narrative Review

Lauren Schlegel

Roberta S. Perry

Elizabeth Cottrill

Follow this and additional works at: <https://jdc.jefferson.edu/otofp>



Part of the [Oncology Commons](#), and the [Otolaryngology Commons](#)

[Let us know how access to this document benefits you](#)

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's [Center for Teaching and Learning \(CTL\)](#). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in Department of Otolaryngology - Head and Neck Surgery Faculty Papers by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Improving surgeon-patient communication in thyroid cancer diagnosis and treatment discussions: a narrative review

Lauren Schlegel^{1^}, Roberta S. Perry², Elizabeth Cottrill^{3^}

¹Sidney Kimmel Medical College of Thomas Jefferson University, Philadelphia, PA, USA; ²Department of Marketing and Communications, Drexel University, Philadelphia, PA, USA; ³Department of Otolaryngology–Head and Neck Surgery, Thomas Jefferson University Hospitals, Philadelphia, PA, USA

Contributions: (I) Conception and design: E Cottrill; (II) Administrative support: L Schlegel, RS Perry; (III) Provision of study materials or patients: All authors; (IV) Collection and assembly of data: All authors; (V) Data analysis and interpretation: All authors; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript: All authors.

Correspondence to: Elizabeth Cottrill, MD. Department of Otolaryngology–Head and Neck Surgery, Thomas Jefferson University Hospitals, 925 Chestnut Street, 6th Floor, Philadelphia, PA 19107, USA. Email: elizabeth.cottrill@jefferson.edu.

Background and Objective: Patient experience is greatly influenced by physician-patient communication. Yet, unmet communication needs continue to be well documented in patients with thyroid cancer. This review discusses factors that may impact this communication and presents communication interventions that are currently being used with thyroid cancer patients.

Methods: A narrative review of articles on the physician-patient relationship and communication in thyroid cancer published between 1985 and 2022 was conducted through PubMed and Google. An additional review of the articles referenced in the bibliography of the included articles was performed.

Key Content and Findings: This review discusses communication components impacting the patient-physician relationship including physician communication skills and patient communication priorities. Additionally, modern communication interventions such as the use of pamphlets, decision aids, and multimedia platforms are reviewed.

Conclusions: Developing a strong physician-patient relationship is a complex process influenced by verbal, paraverbal, and nonverbal communication. Tools such as communication training for physicians, shared decision-making approaches, and multimedia platforms have shown promise in improving communication between physicians and patients. Further study into the barriers of communication, effectiveness of adjunct tools, and patient satisfaction as it relates to communication will continue to improve outcomes.

Keywords: Communication; thyroid cancer; patient satisfaction; patient experience

Received: 02 January 2023; Accepted: 11 April 2023; Published online: 30 May 2023.

doi: 10.21037/aot-23-1

View this article at: <https://dx.doi.org/10.21037/aot-23-1>

Introduction

Strong communication between surgeons and patients is an essential factor in delivering high-quality holistic care. It also empowers patients to participate in shared decision-making, an interactive approach in which patients and clinicians work together to determine a treatment course

that takes into consideration evidence-based guidelines, clinical outcomes, and patient preference and values. In order to have shared decision-making, it is necessary to have clear communication from the physician about treatment options and their risks, benefits, and alternatives. This one-way communication, giving information and data

[^] ORCID: Lauren Schlegel, 0000-0003-1498-3741; Elizabeth Cottrill, 0000-0001-5861-5428.

Table 1 Search strategy summary

Items	Specification
Date of search	March 2022
Databases and other sources searched	PubMed, Google
Search terms used	Physician communication, patient communication, physician patient relationship, patient education, thyroid cancer, head and neck cancer, empathy
Timeframe	1985–2022
Inclusion criteria	English language
Selection process	Author consensus

to the patient, is something many physicians may think that they are skilled in and do well, but there is still room for improvement.

The second requirement for shared decision-making is patients' input about their values, preferences, and fears, and is very often a lacking component in discussions. When the options for treatment are limited or have starkly different outcomes—such as the decision to fix a hip fracture or not—the discussions leading to shared decision-making can be simple and short. However, as any seasoned thyroidologist knows, the options for a patient with a small, well-differentiated thyroid cancer (DTC) are many and varied, ranging from active surveillance to surgery, and there are still more options coming shortly. This makes our shared decision-making complicated and the discussions long.

It is estimated that there were 43,800 people diagnosed with thyroid cancer in 2022 and 80–90% of them were diagnosed with DTC (1). DTC patients have a ten-year recurrence-free rate of 98% which has led to a growing population of thyroid cancer survivors (2,3). Due to the largely indolent nature of DTC, the treatment options vary in their aggressiveness and the spectrum of options has continued to widen including: active surveillance, hemithyroidectomy, total thyroidectomy, possible neck dissection, and adjuvant radioactive iodine (RAI) depending on the extent of disease. Additionally, new technologies are being introduced, such as radiofrequency ablation, which will continue to broaden this spectrum. Because of the wide range of potential treatment options, patients require a clear understanding of both short- and long-term repercussions of treatment decisions and physicians require a clear understanding of the patient's values and goals.

Getting to the answer of “What is the right treatment plan for me?” therefore requires open and honest two-way communication. Patients who are treated for DTC often

live for years, and usually decades, with the consequences of their medical decisions and face an impact on quality of life that may be underestimated in the current literature. Studies of the informational and psychological support that thyroid cancer patients receive show that a large portion of thyroid cancer survivors report unmet informational and communication needs (4). Providing the appropriate, individualized information about disease states, prognosis, treatment options, and their short- and long-term sequelae is a necessary step in providing comprehensive care. However, while patient education is a cornerstone of providing patient-centered care, enabling patients to take an active role in discussions and give truly informed consent, it is irrelevant if the patient cannot read materials provided or is afraid or too overwhelmed to ask questions (5,6). Open two-way communication becomes as important to a patient's care as the actual message.

The aim of this review is to bring together the current literature on surgeon-patient communication and the unmet needs of thyroid cancer patients and to discuss what is being done well and where improvements can be made to better serve our patients. We present this article in accordance with the Narrative Review reporting checklist (available at <https://aot.amegroups.com/article/view/10.21037/aot-23-1/rc>).

Methods

A literature review was conducted utilizing PubMed and Google to search all English language scientific articles related to physician communication and thyroid cancer between 1985 and 2022. Search terms included “physician communication”, “patient communication”, “physician patient relationship”, “patient education”, “thyroid cancer”, “head and neck cancer”, and “empathy” (*Table 1*). Additionally, a review of the articles referenced in the

bibliography of the included articles was performed.

The physician-patient relationship

Central to strong communication is trust in the relationship. To build a durable patient-surgeon relationship, both informational and emotional support must be available in addition to a demonstrated respect for the patient as an individual (7). When bad news is delivered, a range of intense emotions follows. Patients and family members report feeling “shocked”, “numb”, and “a sense of unreality” after hearing the word cancer making it difficult to process information (8-11). When confronted with patients’ concerns about their cancer diagnosis and potential recurrence in preoperative discussion, surgeons were more likely to utilize patient education tools than the communication skills of validation and empathy to advance the discussion (12). Yet, in preliminary studies where surgeons used affective communication, communication directed toward emotions allowing patients to feel “known and understood”, to address emotions prior to continuing education, patients were more likely to remember more information and feel less anxious (13,14).

The style and structure of information delivery are key aspects of communication. Yet, many trainees still feel this is being taught through the hidden curriculum, mentor observation, and trial and error, and there is limited feedback on how trainees or even seasoned surgeons are performing (15,16). A study conducted assessing final-year medical students’ verbal and non-verbal communication skills while taking histories of simulated patients revealed a more significant correlation between non-verbal communication and empathy than verbal (17). Empathy allows a clinician to walk in the shoes of their patients, to see the patient as a person, not a diagnosis, to gain context of their disease, to hear about their experiences, and to feel and respond to patients’ emotions. Training and interventions to increase empathy for medical and health professions students and practicing physicians have been recommended. Simulation, role-play, service learning, the Jefferson Scale of Physician Empathy (JSPE), the care stability initiative (CSI), the communication assessment tool (CAT), and developing concepts, like narrative medicine, are shedding light on ways to sharpen patient-centered care (18-23).

As medicine shifts towards embracing a biopsychosocial model of health, physicians are asked to evaluate and serve patients holistically, but seldom taught the skills to do so. Effective communication with patients usually requires

affective communication skills including validation and empathy to build the strong relationships that have been linked to improved patient satisfaction, recall, health status, and adherence (24-26). Additionally, providing easy access to reliable resources and individualized information has also been shown to strengthen the physician-patient relationship (7). Similar to shared decision-making, is therapeutic alliance. Therapeutic alliance, a collaborative goal-directed approach with the patient, has been shown to positively impact health outcomes (27). In a 2012 systematic review, investigating communication factors that correlated with therapeutic alliance, 67 communication factors were identified. Interaction styles that showed large positive correlation with therapeutic alliance included asking the patient questions and being sensitive to patient concerns (27).

Impact of peri-operative communication

Physician-patient communication impacts not only satisfaction, but also physiologic outcomes for the patient. Dr. Stewart first connected these in a 1995 review and found that the majority of studies focusing exclusively on either patient communication during history taking or physician communication during management conversations, found a positive correlation between quality of communication and patient health (25). A positive impact was found when physicians asked questions about patients’ understanding of their diagnosis, concerns, feelings, and perceptions during history taking. In management discussions, it was found that encouraging patients to ask questions, giving patients informational programs, using shared decision-making, and agreeing about the nature of the diagnosis were all found to be physiologically beneficial, meaning symptom resolution, improvement in functional and physiological status, and lastly, pain control (25). Developing a strong physician-patient relationship, utilizing a full range of communication skills, and providing clear information are intertwined with many of the concepts Stewart congregated. She called for further work to be done to teach physicians these techniques and continue improvement in communication.

The most common reasons for surgical-patient regret are related to postoperative symptoms and decreases in quality of life (28). In a systematic review of patient and physician perspectives on surgical regret conducted in 2017, across 42 studies of oncology patient perspectives, it was found that patients who have undergone oncologic surgery, especially more aggressive approaches, have been shown to have a higher likelihood of harboring feelings

of regret (28). In thyroid surgery, this has been attributed to a stronger focus on discussing immediate surgical care while not adequately preparing patients for the long-term impact of a thyroidectomy (28). In a 2014 Dutch study of 306 thyroid cancer survivors, almost half felt they were “not at all” or “only a little” satisfied with the information that was provided to them surrounding their thyroid cancer diagnosis (29). Topics that survivors indicated they received little or no information about included aspects of their disease (27–86%), medical tests (20–27%), treatment (21–90%), and aftercare (86–91%) (29). For assessing patient understanding of disease, patients answered questions about the spread, diagnosis, causes, and control of their disease (29). Aftercare, which is generally defined as the management or treatment of the disease and its long-term impact, was assessed by asking about information received on extra help, rehabilitation, coping with cancer at home, and psychological assistance (29). Commonly, across studies in thyroid cancer and in other fields, information on aftercare was selected as one of the most frequent unmet needs (4,29).

Communication styles

Both physicians and patients have unique personalities and communication styles that they bring into a health care alliance. These communication styles include verbal, paraverbal, and nonverbal cues. While verbal cues may be easily understood, paraverbal cues, like tone and pitch of voice and pace of speech, and nonverbal cues such as posture, gestures, touch, and facial expressions, are harder to discern and may override verbal communication (17,30). These cues, especially in patient-centered care, indicate how each person relates to each other and how their messages should be received and interpreted (31). When a provider is sharing diagnoses, treatment options, and other important information that the patient should consider before deciding about their care, they should be cognizant of their own individual style, skill, and level of empathy.

Assessments have been developed for care providers to use to capture the way they transfer knowledge and ideas. Using a tool like the Communication Styles Inventory (CSI) created by de Vries *et al.* care providers can evaluate themselves in six dimension-level behavior scales—expressiveness preciseness, verbal aggressiveness, questioningness, emotionality, and impression manipulateness (31). This questionnaire consists of 96 items which are the behaviors and four facets of each (30). For example, talkativeness, conversational

dominance, humor, and informality are the four facets of expressiveness and include items like “I always have a lot to say”, “I often determine which topics are talked about during a conversation”, and “I come across as somewhat stiff when dealing with people”. When the goal is to have shared decision-making, having self-knowledge about communication style can allow a care provider to adjust their approach, giving patients appropriate support while allowing them the opportunity to express their feelings, ask questions, and make statements about their goals and values.

Factors influencing communication: physician-related

As described in the previous section, communication is not solely about the content of information, but is highly influenced by elements such as style and nonverbal manners. The relative importance of these nonverbal manners has been reported to be 55–97% of the message (32). The effect of the physician throughout the conversation can indeed influence the patient experience and has been found to have the greatest impact on quality assessment (33). In communication, “immediacy” describes behaviors or actions that simultaneously communicate availability for communication, involvement, warmth, psychological closeness, and positive affect. Studies have shown that these nonverbal behaviors such as physician immediacy, as well as head nods, and closer interpersonal distance are associated with greater patient satisfaction (34).

Regarding the content of the communication, surgeons unfortunately tend to over intellectualize, for example, quickly turning to data and statistics when trying to support emotionally distraught patients (12). This non-individualized approach likely leaves patients feeling unsupported (12). Instead, focusing on creating a positive therapeutic alliance, a mutual engagement between the physician and patient, can positively impact interactions with patients. Evidence suggests patient-centered communication including emotional support and patient involvement helps to develop such an alliance (27). This requires the physician to solicit the patient’s agenda, beliefs, and values with open-ended questions, understand the patient’s perspective of their condition, explore the patient’s feelings, concerns, and ideas, and to respond compassionately among many other things (35). Experienced physicians who are skilled in delivering bad news tend to rely on implicit language to convey lack of certainty and separate the patient from their diagnosis (36). Patient-centered communication asks clinicians to investigate

each patient's feelings, ideas, concerns, and experience regarding their condition in addition to evaluating the patient's emotional response and responding with empathy (35). These physicians tailor their responses to the patient's demographics and focus of concern (36).

Factors influencing communication: patient-related

Even when physicians take the time to have in-depth discussions with patients, the information doesn't always come through. It has been well-documented that orally presented information does not result in high levels of retention, and some studies estimate up to 80% of information from clinical visits is forgotten (37). Utilizing multimodal learning tools including written materials, website references, videos, pictures, or diagrams, can significantly improve communication. Many of these have been found to be particularly helpful in the informed consent process (38). There is a paucity of literature investigating the most effective methods of communication and learning for patients with thyroid cancer and further studies are needed to help physicians to tailor their communications and resource guidance accordingly.

Not all patients prioritize the same aspects of communication with their physician. In one study of communications with patients with cancer, female patients and unemployed patients focused on how the physician delivered the bad news, while, specifically, educated female patients placed additional importance on the amount of information they received (36). Beyond differences in priorities of communication, there is also variance in preferred level of patient involvement. Studies have indicated that thyroid cancer patient preference for level of involvement from the physician in medical decision-making is highly variable and ranges from patients preferring only basic medical information and decisions made entirely by the physician to patients preferring highly detailed information involving a shared decision-making process (39). For well-DTC, with many treatment options, this range of preferences brings attention to the need for a plain language decision aid to help comprehensively inform patients of all the available treatments, benefits, risk of intervention, and more, allowing patients to more actively engage in shared decision-making (40).

Social factors such as education level, health literacy, primary language, religious and cultural beliefs, familial structure, and demographics also deeply influence the conversations between physicians and their patients. For

example, in a study conducted at the University of Toronto with 54 patients, evaluating patient recall of potential complications from thyroidectomy, parathyroidectomy, and parotidectomy, those who were younger and more educated had significantly better recall (41). Basic patient demographics have been shown to be associated with patient preference in the deliverance of bad news (36). For example, in one study, aspects such as level of education, influence whether patients value "reassurance and emotional support" over "additional information" when receiving cancer-related bad news (36). These studies make it clear that how the patient wants to be communicated with, including what kind of information or style of delivery, is highly variable and therefore physicians must explore individual patient needs and understanding.

Implicit bias

Beyond the physician's skill or training in communicating, biases and prejudices play a role in communication, forming the physician's perception of the patient. In a 2007 study, 29 physicians from 10 outpatient clinics were recorded during appointments and survey data about perceptions was collected from both physicians and patients (42). Physicians who perceived their patients as positive and involved were more likely to utilize patient-centered communication and think favorably of their patients (42). The physicians perceived Black patients as less effective communicators leading to less patient-centered communication, quantitatively displaying racial bias in medical conversations (42). This only furthers the health disparities experienced by those with a lower socioeconomic status, who are already more likely to have poor access to high-quality care, lower screening rates, delays in treatment after diagnosis, and lower treatment adherence (43,44).

Improving communication: training

There are multiple ways to approach the goal of improved communications between physicians and patients. These methods include training physicians or patients in communication skills in addition to leveraging various resources, from informational pamphlets to videos to 3D-printed models. Strong physician communication correlates to many positive outcomes. In a 2009 meta-analysis of 106 correlational studies and 21 experimental interventions, it was found that physician training in effective communication skills significantly increased patient

adherence (45). Boissy *et al.*, in a 2016 study, compared 1,537 attending physicians who participated in a communication skills training to 1,951 physicians who did not participate in the course. They found it not only improved patient satisfaction, but also improved physician empathy and self-efficacy and reduced burnout (46). By educating physicians about both communication skills and patient health literacy, physicians were more effective at lowering blood pressure and increasing medication adherence (47). Unfortunately, formal training in communication is often minimal in medical school training. Currently, there is no specific training program for improving physician communication surrounding head and neck cancer.

Improving communication: decision aids and patient-facing materials

A simple method to help with patient communication is the addition of a written informational paper pamphlet. In 2002, Chan *et al.* studied this intervention across 125 patients, adding a paper pamphlet to the preoperative conversation and assessing patients' risk recall. They found a significant increase in patients' ability to recall potential risks of the surgery across all demographics (48). However, in another study, when an informational booklet was provided on thyroxine for the treatment of hypothyroidism, no significant difference in patient adherence was noted (49). This variability could be due to many factors, including the educational pamphlet itself and aspects such as the presence of illustrations, length of text, and readability.

This inconsistency in efficacy has been found across many other fields as well (50-53). According to the United States National Center for Education Statistics's most recent report from 2019, 43 million Americans possess low literacy skills, defined by the Program for the International Assessment of Adult Competencies (PIAAC) as being unable to paraphrase information or make low-level inferences (54,55). The average adult in the United States reads at an 8th-grade reading level, so multiple medical societies have strongly recommended that any written materials provided to patients, including consent forms, be written at no higher than an 8th-grade reading level, and preferably lower (56,57).

Another resource available to augment communication with patients is a decision aid, a plain language guide to the basic information with all available options and treatment courses explained (40). Pitt and Saucke developed a decision aid for low-risk thyroid carcinoma in 2020, involving 16 stakeholder meetings with clinicians, patients, and family

members to develop a treatment comparison chart and question prompt list for low-risk thyroid cancer (58). Decision aids like this are shown to facilitate evidence-based decisions by patients and allow them to more actively engage in management discussions (59-61). However, further work needs to be done to expand their role in thyroid cancer care and determine more about their efficacy.

Currently, there is limited literature on the widespread implementation of this new resource. If the American Thyroid Association or the American Society of Clinical Endocrinology endorsed a decision aid that could make them more accessible. Ideally, patients would first encounter this resource early on at their endocrinology visit and could use it to engage with both their endocrinologist and surgeon throughout their clinical care.

Improving communication: internet resources

The internet has become an increasingly popular source of information with 93% of Americans reporting utilization in 2020, a percentage that may have increased because of the COVID-19 pandemic, necessitating in-person experiences be converted to a virtual format (62). In parallel, patients have been increasingly turning to the internet as a tool for health-related education and decision aids. If patients speak with their physicians about this information, it can improve the patient-surgeon relationship and allow patients to be more actively involved in decision-making (63). In a 2019 study conducted by Aydin and Akyol, they discussed the quality of YouTube videos pertaining to thyroid cancer. They found that the majority of web-based resources fall short in providing appropriate information, sometimes even scaring patients with conflicting or seemingly untrustworthy information (64). When thyroid cancer-related websites were evaluated, they were found to lack references, contain advertisements, be nonspecific, and privately sponsored (65). However, some institutions have sought to rectify this by creating web-based platforms for patients, developing a space that is informational and trustworthy (66). Tailoring online patient education materials to fit patient needs has been shown to make patients more knowledgeable and improve outcomes (67-69).

YouTube, the world's second largest search engine, has become an increasingly popular source of medical information for patients; unfortunately, it frequently falls short of providing high-quality information. In a review of YouTube videos related to transoral robotic thyroid surgery, postoperative complications were only mentioned in 31.8%

of videos, postoperative care instructions in 24.3%, and preoperative preparation instructions in 12.1%; However, only 15.2% of the videos were deemed to have purely educational intent while 68.2% of the videos had multiple purposes or unclear intent (70). In 2021, Turkdogan *et al.* at McGill University evaluated the impact of an animated surgical video prior to head and neck cancer surgery and found patients were just as likely to perceive that they had received adequate information as their colleagues who did not have access to the multimedia platform. However, the patients who had seen the animated surgical guide were found to have significantly better postoperative satisfaction regarding information concerning their medical tests, treatments, and other services (71). To provide patients with high-quality resources, videos were made at a 6th-grade reading level to decrease limitations of health literacy. Additionally, they were concise while still providing medical details on preparing for the surgery and the recovery and psychosocial elements like mental health and family life in the recovery process (71).

Physician communication training, web-based platforms, and informational pamphlets are some of the main interventions on physician-patient communication. By bringing these interventions together, we provide a succinct review of these important studies to improve communications between physicians and patients.

Discussion and limitations

Here we have reviewed many of the important factors that can impact physician-patient communication, shared decision-making, and therapeutic alliance. We also discussed potential communication interventions in the field of thyroid cancer including written pamphlets, decision aids, videos, and web-resources. The impact of communication is influenced not just by the content of information that is exchanged, but also by the verbal, non-verbal, and paraverbal style that is used by the physician and multiple patient factors, including age, sex, and education level. By reviewing some of the complexities surrounding communication with patients with thyroid cancer, we hope physicians become curious about their own communication style and some of the common pitfalls that physicians fall into such as consoling patients with statistics.

While long-term treatment and quality of life are hugely important in decision-making, many patients report unmet needs in learning this information. This highlights how informational gaps and communication can have a large

impact on patients with thyroid cancer and their expectations for post-surgical quality of life. When communicating about clinical management, the power dynamics are nuanced, requiring the physician to discuss the patient's expectations of guidance from the physician (25). Numerous studies have shown that increased patient participation is found to decrease regret, however, this may not be a direct correlation (72-74). In a 2005 study by Lantz *et al.*, they found it was the match of patient preference of involvement to actual patient involvement that was the strongest indicator of patient satisfaction and decreased regret. Said another way, not all patients want to be heavily involved, in which case parsing out their preference is of utmost importance (75). As the challenge of clinical management in thyroid cancer becomes increasingly personalized for the patient with shared decision-making as the standard of care, a thorough investigation into the best communication practices is called for to provide evidence-based optimal communication. Research into physician, patient needs and perceptions, and the tools utilized to provide information is all necessary to continue to learn about this nuanced matter and improve the way that information and care are delivered.

If a patient is not given information they need through their medical team or it is communicated in a way that is unclear, it is understandable that they will likely look to the internet where there is an abundance of readily accessible information, despite being of variable quality and validity. For example, a 2018 study demonstrated that of the thyroid cancer educational videos found on YouTube, only 26.9% were uploaded by experts (specialist physicians, hospitals, surgical societies, etc.) and 3.8% by academic institutions (64). With varying credibility and quality of information available, these resources may cause significant challenges in educating patients adequately (76,77). Equally challenging is taking highly technical information and making it understandable to the general population. In a 2015 review, Barnes and Davies searched online for thyroid nodule resources in addition to directly calling organizations associated with thyroid care to collect printed materials to assess quality and reading level of available thyroid nodule resources. Not one of the 63 resources evaluated had met all of the following criteria: grade-level appropriate, complete information, and high-quality material (78). The material evaluated as having the closest to ideal information was the National Cancer Institute's "What you need to know about thyroid cancer" which was still written at a grade-level nine (78). Many of these resources did not touch on a treatment's potential harm to the patient

and were not written clearly (78). To adequately prepare patients for the short- and long-term consequences of thyroid cancer treatment, accurate information must be available and communication between physicians and patients must be done thoughtfully, thoroughly, and driven by techniques known to improve patient understanding, expectations, and outcomes.

Conclusions

This review condenses a great deal of literature on the analysis of physician-patient communication factors and interventions. Setting patient expectations and guiding them to reliable and thorough resources allows patients to participate in shared decision-making and decide a more personalized treatment plan for thyroid cancer. Many communication inventions have been studied to increase productive conversation, which have been discussed in this article.

In this review, we discuss multiple interventions to improve communications, but all methods can come with a caveat. For example, while some studies found increased patient participation was associated with increased satisfaction, another noticed that it was actually more related to patients' preference for participating. Each intervention may work for some people, but not all. For patients with vision loss, a pamphlet or video is not likely to improve communication; however, a 3D model might help to bridge the gap. Each intervention needs to be considered in the context of the patient and a personalized plan of communication is the best way forward, acknowledging that not all tools will be helpful. Lastly, this review is not all-inclusive. There are other tools for communication being developed that may not have been discussed in the scope of this review. While more methods are being developed, we offer a broad discussion, going in-depth on certain approaches to unmet communication needs. This discussion will hopefully generate further work to address the unmet communication needs of thyroid cancer patients.

Acknowledgments

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Annals of Thyroid* for the series

“Improved Quality of Life after Thyroid Surgery”. The article has undergone external peer review.

Reporting Checklist: The authors have completed the Narrative Review reporting checklist. Available at <https://aot.amegroups.com/article/view/10.21037/aot-23-1/rc>

Peer Review File: Available at <https://aot.amegroups.com/article/view/10.21037/aot-23-1/prf>

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at <https://aot.amegroups.com/article/view/10.21037/aot-23-1/coif>). The series “Improved Quality of Life after Thyroid Surgery” was commissioned by the editorial office without any funding or sponsorship. EC served as the unpaid Guest Editor of the series. The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Open Access Statement: This is an Open Access article distributed in accordance with the Creative Commons Attribution-NonCommercial-NoDerivs 4.0 International License (CC BY-NC-ND 4.0), which permits the non-commercial replication and distribution of the article with the strict proviso that no changes or edits are made and the original work is properly cited (including links to both the formal publication through the relevant DOI and the license). See: <https://creativecommons.org/licenses/by-nc-nd/4.0/>.

References

1. American Cancer Society. Cancer Facts & Figures 2022. Atlanta; 2022.
2. Husson O, Haak HR, Buffart LM, et al. Health-related quality of life and disease specific symptoms in long-term thyroid cancer survivors: a study from the population-based PROFILES registry. *Acta Oncol* 2013;52:249-58.
3. Nixon IJ, Ganly I, Patel SG, et al. Thyroid lobectomy for treatment of well differentiated intrathyroid malignancy. *Surgery* 2012;151:571-9.
4. Hyun YG, Alhashemi A, Fazelzad R, et al. A Systematic Review of Unmet Information and Psychosocial Support Needs of Adults Diagnosed with Thyroid Cancer. *Thyroid*

- 2016;26:1239-50.
5. Joseph-Williams N, Elwyn G, Edwards A. Knowledge is not power for patients: a systematic review and thematic synthesis of patient-reported barriers and facilitators to shared decision making. *Patient Educ Couns* 2014;94:291-309.
 6. Elwyn G, Miron-Shatz T. Deliberation before determination: the definition and evaluation of good decision making. *Health Expect* 2010;13:139-47.
 7. Pitt SC, Wendt E, Saucke MC, et al. A Qualitative Analysis of the Preoperative Needs of Patients With Papillary Thyroid Cancer. *J Surg Res* 2019;244:324-31.
 8. Matthews T, Baken D, Ross K, et al. The experiences of patients and their family members when receiving bad news about cancer: A qualitative meta-synthesis. *Psychooncology* 2019;28:2286-94.
 9. Chircop D, Scerri J. Being diagnosed with cancer: The experiences of patients with non-Hodgkin's lymphoma. *J Clin Nurs* 2017;26:4899-904.
 10. Friedrichsen MJ, Strang PM, Carlsson ME. Cancer patients' perceptions of their participation and own resources after receiving information about discontinuation of active tumour treatment. *Acta Oncol* 2000;39:919-25.
 11. Lobb EA, Halkett GK, Nowak AK. Patient and caregiver perceptions of communication of prognosis in high grade glioma. *J Neurooncol* 2011;104:315-22.
 12. Pitt SC, Saucke MC, Roman BR, et al. The Influence of Emotions on Treatment Decisions About Low-Risk Thyroid Cancer: A Qualitative Study. *Thyroid* 2021;31:1800-7.
 13. van Osch M, Sep M, van Vliet LM, et al. Reducing patients' anxiety and uncertainty, and improving recall in bad news consultations. *Health Psychol* 2014;33:1382-90.
 14. Noordman J, Schulze L, Roodbeen R, et al. Instrumental and affective communication with patients with limited health literacy in the palliative phase of cancer or COPD. *BMC Palliat Care* 2020;19:152.
 15. Ghoneim N, Dariya V, Guffey D, et al. Teaching NICU Fellows How to Relay Difficult News Using a Simulation-Based Curriculum: Does Comfort Lead to Competence? *Teach Learn Med* 2019;31:207-21.
 16. Warriar V, Pradhan A. A Narrative Review of Interventions to Teach Medical Students How to Break Bad News. *Med Sci Educ* 2020;30:1299-312.
 17. Vogel D, Meyer M, Harendza S. Verbal and non-verbal communication skills including empathy during history taking of undergraduate medical students. *BMC Med Educ* 2018;18:157.
 18. Bearman M, Palermo C, Allen LM, et al. Learning Empathy Through Simulation: A Systematic Literature Review. *Simul Healthc* 2015;10:308-19.
 19. Yang YS, Liu PC, Lin YK, et al. Medical students' preclinical service-learning experience and its effects on empathy in clinical training. *BMC Med Educ* 2021;21:301.
 20. Fields SK, Mahan P, Tillman P, et al. Measuring empathy in healthcare profession students using the Jefferson Scale of Physician Empathy: health provider--student version. *J Interprof Care* 2011;25:287-93.
 21. Makoul G, Krupat E, Chang CH. Measuring patient views of physician communication skills: development and testing of the Communication Assessment Tool. *Patient Educ Couns* 2007;67:333-42.
 22. Guidi C, Traversa C. Empathy in patient care: from 'Clinical Empathy' to 'Empathic Concern'. *Med Health Care Philos* 2021;24:573-85.
 23. Brickner P. *Narrative Medicine: Honoring the Stories of Illness*. 1st ed. Oxford: Oxford University Press; 2008;
 24. Hall JA, Roter DL, Katz NR. Meta-analysis of correlates of provider behavior in medical encounters. *Med Care* 1988;26:657-75.
 25. Stewart MA. Effective physician-patient communication and health outcomes: a review. *CMAJ* 1995;152:1423-33.
 26. Ong LM, de Haes JC, Hoos AM, et al. Doctor-patient communication: a review of the literature. *Soc Sci Med* 1995;40:903-18.
 27. Pinto RZ, Ferreira ML, Oliveira VC, et al. Patient-centred communication is associated with positive therapeutic alliance: a systematic review. *J Physiother* 2012;58:77-87.
 28. Wilson A, Ronnekleiv-Kelly SM, Pawlik TM. Regret in Surgical Decision Making: A Systematic Review of Patient and Physician Perspectives. *World J Surg* 2017;41:1454-65.
 29. Husson O, Mols F, Oranje WA, et al. Unmet information needs and impact of cancer in (long-term) thyroid cancer survivors: results of the PROFILES registry. *Psychooncology* 2014;23:946-52.
 30. de Vries RE, Bakker-Pieper A, Alting Siberg R, et al. The content and dimensionality of communication styles. *Communic Res* 2009;36:178-206.
 31. de Vries RE, Bakker-Pieper A, Konings FE, et al. The Communication Styles Inventory (CSI): A Six-Dimensional Behavioral Model of Communication Styles and Its Relation With Personality. *Communic Res* 2013;40:506-32.
 32. Roberts L, Bucksey SJ. Communicating with patients: what happens in practice? *Phys Ther* 2007;87:586-94.
 33. Bensing JM, Dronkers J. Instrumental and affective aspects

- of physician behavior. *Med Care* 1992;30:283-98.
34. Roter DL, Frankel RM, Hall JA, et al. The expression of emotion through nonverbal behavior in medical visits. Mechanisms and outcomes. *J Gen Intern Med* 2006;21 Suppl 1:S28-34.
 35. Hashim MJ. Patient-Centered Communication: Basic Skills. *Am Fam Physician* 2017;95:29-34.
 36. Fujimori M, Akechi T, Uchitomi Y. Factors associated with patient preferences for communication of bad news. *Palliat Support Care* 2017;15:328-35.
 37. Kessels RP. Patients' memory for medical information. *J R Soc Med* 2003;96:219-22.
 38. Nehme J, El-Khani U, Chow A, et al. The use of multimedia consent programs for surgical procedures: a systematic review. *Surg Innov* 2013;20:13-23.
 39. Sawka AM, Straus S, Gafni A, et al. How can we meet the information needs of patients with early stage papillary thyroid cancer considering radioactive iodine remnant ablation? *Clin Endocrinol (Oxf)* 2011;74:419-23.
 40. Charles C, Gafni A, Whelan T, et al. Treatment decision aids: conceptual issues and future directions. *Health Expect* 2005;8:114-25.
 41. Hekkenberg RJ, Irish JC, Rotstein LE, et al. Informed consent in head and neck surgery: how much do patients actually remember? *J Otolaryngol* 1997;26:155-9.
 42. Street RL Jr, Gordon H, Haidet P. Physicians' communication and perceptions of patients: is it how they look, how they talk, or is it just the doctor?. *Soc Sci Med* 2007;65:586-98.
 43. Zavala VA, Bracci PM, Carethers JM, et al. Cancer health disparities in racial/ethnic minorities in the United States. *Br J Cancer* 2021;124:315-32.
 44. Siegel RL, Miller KD, Jemal A. Cancer statistics, 2019. *CA Cancer J Clin* 2019;69:7-34.
 45. Zolnieriek KB, Dimatteo MR. Physician communication and patient adherence to treatment: a meta-analysis. *Med Care* 2009;47:826-34.
 46. Boissy A, Windover AK, Bokar D, et al. Communication Skills Training for Physicians Improves Patient Satisfaction. *J Gen Intern Med* 2016;31:755-61.
 47. Tavakoly Sany SB, Behzad F, Ferns G, et al. Communication skills training for physicians improves health literacy and medical outcomes among patients with hypertension: a randomized controlled trial. *BMC Health Serv Res* 2020;20:60.
 48. Chan Y, Irish JC, Wood SJ, et al. Patient education and informed consent in head and neck surgery. *Arch Otolaryngol Head Neck Surg* 2002;128:1269-74.
 49. Crilly M, Esmail A. Randomised controlled trial of a hypothyroid educational booklet to improve thyroxine adherence. *Br J Gen Pract* 2005;55:362-8.
 50. Raynor DK, Booth TG, Blenkinsopp A. Effects of computer generated reminder charts on patients' compliance with drug regimens. *BMJ* 1993;306:1158-61.
 51. Cormack MA, Sweeney KG, Hughes-Jones H, et al. Evaluation of an easy, cost-effective strategy for cutting benzodiazepine use in general practice. *Br J Gen Pract* 1994;44:5-8.
 52. Jenkinson D, Davison J, Jones S, et al. Comparison of effects of a self management booklet and audiocassette for patients with asthma. *BMJ* 1988;297:267-70.
 53. Vetto JT, Dubois PM, Vetto IP. The impact of distribution of a patient-education pamphlet in a multidisciplinary breast clinic. *J Cancer Educ* 1996;11:148-52.
 54. PIAAC - What PIAAC Measures [Internet]. [cited 2022 May 29]. Available online: https://nces.ed.gov/surveys/piaac/measure.asp?section=1&sub_section=3
 55. Adult Literacy in the United States [Internet]. [cited 2022 May 29]. Available online: <https://nces.ed.gov/pubs2019/2019179/index.asp>
 56. Wallace LS, Lennon ES. American Academy of Family Physicians patient education materials: can patients read them? *Fam Med* 2004;36:571-4.
 57. Hersh L, Salzman B, Snyderman D. Health Literacy in Primary Care Practice. *Am Fam Physician* 2015;92:118-24.
 58. Pitt SC, Saucke MC. Novel Decision Support Interventions for Low-risk Thyroid Cancer. *JAMA Otolaryngol Head Neck Surg* 2020;146:1079-81.
 59. Holmes-Rovner M, Rovner DR. Measuring improved patient choice. *J Eval Clin Pract* 2000;6:263-72.
 60. O'Connor A. Using patient decision aids to promote evidence-based decision making. *ACP J Club* 2001;135:A11-2.
 61. Trevena L, Barratt A. Integrated decision making: definitions for a new discipline. *Patient Educ Couns* 2003;50:265-8.
 62. Demographics of Internet and Home Broadband Usage in the United States | Pew Research Center [Internet]. [cited 2022 May 21]. Available online: <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/>
 63. Tan SS, Goonawardene N. Internet Health Information Seeking and the Patient-Physician Relationship: A Systematic Review. *J Med Internet Res* 2017;19:e9.
 64. Aydin MA, Akyol H. Quality of Information Available on YouTube Videos Pertaining to Thyroid Cancer. *J Cancer Educ* 2020;35:599-605.

65. Air M, Roman SA, Yeo H, et al. Outdated and incomplete: a review of thyroid cancer on the World Wide Web. *Thyroid* 2007;17:259-65.
66. Jabbour J, Dhillon HM, Shepherd HL, et al. A web-based comprehensive head and neck cancer patient education and support needs program: Usability testing. *Health Informatics J* 2022;0:14604582221087128.
67. Singh N, Armstrong DG, Lipsky BA. Preventing foot ulcers in patients with diabetes. *JAMA* 2005;293:217-28.
68. Ellis SE, Speroff T, Dittus RS, et al. Diabetes patient education: a meta-analysis and meta-regression. *Patient Educ Couns* 2004;52:97-105.
69. Dodd RH, Waller J, Marlow LAV. Human Papillomavirus and Head and Neck Cancer: Psychosocial Impact in Patients and Knowledge of the Link - A Systematic Review. *Clin Oncol (R Coll Radiol)* 2016;28:421-39.
70. Starks C, Akkera M, Shalaby M, et al. Evaluation of YouTube videos as a patient education source for novel surgical techniques in thyroid surgery. *Gland Surg* 2021;10:697-705.
71. Turkdogan S, Roy CF, Chartier G, et al. Effect of Perioperative Patient Education via Animated Videos in Patients Undergoing Head and Neck Surgery: A Randomized Clinical Trial. *JAMA Otolaryngol Head Neck Surg* 2022;148:173-9.
72. Boss EF, Mehta N, Nagarajan N, et al. Shared Decision Making and Choice for Elective Surgical Care: A Systematic Review. *Otolaryngol Head Neck Surg* 2016;154:405-20.
73. Nicolai J, Buchholz A, Seefried N, et al. When do cancer patients regret their treatment decision? A path analysis of the influence of clinicians' communication styles and the match of decision-making styles on decision regret. *Patient Educ Couns* 2016;99:739-46.
74. Livaudais JC, Franco R, Fei K, et al. Breast cancer treatment decision-making: are we asking too much of patients? *J Gen Intern Med* 2013;28:630-6.
75. Lantz PM, Janz NK, Fagerlin A, et al. Satisfaction with surgery outcomes and the decision process in a population-based sample of women with breast cancer. *Health Serv Res* 2005;40:745-67.
76. Meldrum S, Savarimuthu BT, Licorish S, et al. Is knee pain information on YouTube videos perceived to be helpful? An analysis of user comments and implications for dissemination on social media. *Digit Health* 2017;3:2055207617698908.
77. Drozd B, Couvillon E, Suarez A. Medical YouTube Videos and Methods of Evaluation: Literature Review. *JMIR Med Educ* 2018;4:e3.
78. Barnes JA, Davies L. Reading grade level and completeness of freely available materials on thyroid nodules: there is work to be done. *Thyroid* 2015;25:147-56.

doi: 10.21037/aot-23-1

Cite this article as: Schlegel L, Perry RS, Cottrill E. Improving surgeon-patient communication in thyroid cancer diagnosis and treatment discussions: a narrative review. *Ann Thyroid* 2023;8:7.