

Reassurance Seeking and Anxiety Reinforcement in Online Symptom Checking

Xu Qing^{1*}

¹ Jiangxi Normal University, Nanchang, China

* Correspondence: Jiangxi Normal University, Nanchang, China.

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Abstract: Online symptom checking has become a common way for users to respond to bodily discomfort. When people notice headache, chest tightness, stomach pain, rapid heartbeat, or other uncertain sensations, they may search online before deciding whether medical help is needed. In many cases, this behavior begins as reassurance seeking. Users want to know that the symptom is not serious and that they are still safe. However, online searching does not always reduce worry. For people with stronger health anxiety, search results may bring serious disease names, warning signs, patient stories, and conflicting explanations. These contents can make ordinary bodily sensations feel more threatening. This paper discusses how reassurance seeking in online symptom checking may turn into anxiety reinforcement. It focuses on catastrophic interpretation, confirmation bias, intolerance of uncertainty, body monitoring, and repeated checking. The paper argues that online health information is not harmful in itself, but when searching becomes the main way to manage fear, it may create a cycle of short relief and renewed worry.

Keywords: online symptom checking; reassurance seeking; health anxiety; anxiety reinforcement; cognitive bias; cyberchondria

1. Online Symptom Checking as a Common Health Behavior

Online symptom checking has become a normal part of everyday health behavior. When people notice headache, chest tightness, stomach pain, dizziness, rapid heartbeat, or other unclear bodily sensations, many of them first search online before deciding whether to seek medical help. They may use search engines, health platforms, social media posts, short

videos, or symptom-checking tools. The question behind the search is often simple: Is this serious, or can I wait?

This behavior should not be seen as harmful from the beginning. Online health information can help users understand common symptoms, notice warning signs, and prepare questions before seeing a doctor. For mild or uncertain discomfort, searching online may feel like a reasonable middle

step between ignoring the symptom and going directly to hospital.

But online symptom checking is not only about information. It often has an emotional purpose. Users may search because they want reassurance. A person with chest tightness may hope to read that it is caused by stress or fatigue. A person with a headache may want to confirm that it is not a serious disease. The search begins with a wish to feel safe. The difficulty is that online health information rarely gives complete certainty. One search result may sound comforting, while another may mention serious illness or emergency warning signs. In this way, a common health behavior may become connected with worry. The following sections discuss how this search for reassurance can gradually turn into a cycle of repeated checking and renewed anxiety (Muse et al., 2012; McElroy & Shevlin, 2014).

2. Reassurance Seeking in Health Anxiety

Reassurance seeking is a common response to health-related worry. When people feel uncertain about a bodily sensation, they often look for confirmation that they are safe. This confirmation may come from doctors, family members, friends, or online information. In online symptom checking, reassurance is usually sought through search results, medical explanations, patient stories, and symptom lists (Doherty-Torstrick et al., 2016).

For people with health anxiety, reassurance is especially important because bodily sensations are easily interpreted as signs of danger. A headache may be linked with brain disease. Chest tightness may be linked with heart problems. Stomach pain may be linked with cancer. The symptom itself may be mild, but the meaning attached to it becomes frightening. The user does not only want information; the user wants the fear to stop.

Online searching seems to offer a quick way to reduce this fear. It is private, fast, and always available. A user can search many times without explaining the worry to others. When the result suggests a common and harmless cause, anxiety

may drop for a short time. This short relief makes the search feel useful.

The problem is that reassurance often does not last. After a few minutes or hours, the same doubt may return. The user may wonder whether the information was accurate, whether an important symptom was missed, or whether the serious possibility still applies. Then the person searches again, often with more specific or more alarming keywords. In this way, reassurance seeking does not end the anxiety. It may become part of the anxiety itself (Salkovskis & Warwick, 1986).

3. Cognitive Biases in Symptom Interpretation

Online symptom checking does not affect every user in the same way. The same search result may calm one person but frighten another. This difference is closely related to how users interpret bodily sensations and health information. For people with stronger health anxiety, the problem is often not the symptom alone, but the meaning they give to the symptom.

A mild headache, a fast heartbeat, or a short period of stomach pain may be understood as a normal reaction to tiredness, stress, diet, or lack of sleep. Yet in an anxious state, these ordinary explanations may feel too weak. The user may pay more attention to rare and serious possibilities. This makes online information more difficult to process. Search results do not simply provide facts; they are filtered through the user's fear, previous worries, and need for certainty.

Several cognitive biases are involved in this process. They shape what users notice, what they remember, and what they believe is most likely. These biases do not mean that users are irrational in a simple sense. More often, they are trying to protect themselves from danger. The difficulty is that this protective effort can make the danger feel larger than it really is.

3.1 Catastrophic Interpretation

Catastrophic interpretation is one of the most common patterns in online symptom checking. It means that a user explains a bodily sensation in the

most serious way, even when there are many more common explanations. The body sends a vague signal, and the mind quickly connects it with a frightening disease.

For example, a user may have a headache after poor sleep or long screen use. Before searching online, the discomfort may only feel annoying. After searching, the user may see terms related to brain tumors, stroke, or intracranial pressure. These terms do not need to appear as the main explanation. Even if they are listed as rare possibilities, they may still become the center of attention. The user may then begin to check whether there is nausea, blurred vision, numbness, or balance problems. A simple headache is no longer treated as a temporary discomfort. It becomes a possible sign of serious illness.

This pattern is important because online symptom checking often presents different possibilities side by side. Common causes and rare diseases may appear on the same page, but users with health anxiety may not read them according to probability. They may read them according to threat. The most frightening explanation becomes the most memorable one.

Catastrophic interpretation also changes the user's relationship with the body. After seeing serious disease information, the user may monitor the symptom more closely. A small change in pain level, heartbeat, breathing, or stomach feeling may be taken as new evidence. The more the user observes the body, the more abnormal the body seems. This does not mean the symptom is imagined. The sensation may be real. What changes is the meaning attached to it.

Catastrophic interpretation can turn online symptom checking into a search for danger rather than a search for information. The user may start with the hope of finding comfort, but the search can make the worst possibility feel closer and more believable.

3.2 Confirmation Bias

Confirmation bias is another important reason why online symptom checking may increase anxiety. When users already suspect that a symptom may be

serious, they are more likely to notice information that supports this fear. Other explanations may still appear in the search results, but they are easier to overlook.

For example, a user with stomach pain may find many common causes, such as irregular meals, stress, indigestion, or mild gastritis. These explanations may be more likely in daily life. Yet if the user is already afraid of cancer, the most alarming result may become the most persuasive one. A patient story about "early stomach cancer beginning with ordinary stomach pain" may leave a much stronger impression than a general medical explanation about digestive discomfort.

The problem is not simply that users read false information. Some of the information they find may be medically possible. The real issue is how the information is selected and remembered. A rare disease name may be treated as more meaningful than a common explanation because it matches the user's existing worry. After that, the user may continue searching with more specific keywords, such as "stomach pain cancer sign" or "stomach pain serious symptoms." The search becomes narrower, and the results become more frightening. Confirmation bias also makes reassurance unstable. Even when users read that a symptom is usually not serious, they may still focus on the part that says "medical attention is needed in some cases." The comforting message is weakened, while the warning message remains. This makes it difficult for the user to stop searching. Each new result seems to offer one more chance to confirm or deny the fear, but it often gives the fear more material.

For this reason, confirmation bias plays a quiet but powerful role in online symptom checking. It does not force users to believe every alarming result. It only guides their attention toward the results that fit their worry. Once this happens, online searching can move away from open information seeking and become a process of collecting evidence for anxiety.

3.3 Attentional Bias Toward Threat

Attentional bias toward threat means that users are more easily drawn to information that suggests

danger. In online symptom checking, this often appears as a strong focus on serious disease names, warning signs, emergency descriptions, and frightening personal experiences. The user may not intend to ignore other information, but threatening content has a stronger pull.

A search page is not emotionally neutral. Words such as cancer, heart attack, stroke, tumor, sudden death, or emergency can quickly change the user's attention. Even when these words appear only as rare possibilities, they may stand out more than ordinary explanations. A user who searches for rapid heartbeat may pass over stress, lack of sleep, caffeine, or anxiety, but stop immediately when seeing heart disease. The threatening word becomes the center of the search.

This bias also appears in the way users read symptom lists. Many health articles include both common symptoms and warning signs. For a calm reader, warning signs may simply mean "seek help if these appear." For an anxious reader, they may become a checklist. The user may begin to compare each item with the body: Is my chest pain spreading? Is my breathing strange? Is this dizziness serious? The article may have been written for general guidance, but the user reads it as a test of danger.

Short videos and social media posts can make this problem stronger. Titles such as "Do not ignore these symptoms" or "These signs may mean serious disease" are designed to catch attention. They may be useful in some cases, but they also push users to look at the body through a risk lens. After watching this kind of content, a user may become more sensitive to small bodily changes that were previously ignored.

Threat-focused attention does not end when the search ends. The user may continue to monitor the body during work, study, eating, or sleep. A small heartbeat change, a brief pain, or a moment of dizziness may be noticed again and again. Attention turns the body into something that must be checked. The more the user looks for danger, the easier it becomes to find signs that seem unusual.

This is why online symptom checking can be difficult for people with health anxiety. The search result may contain useful information, but threat-related words and images often become more noticeable than balanced explanations. The user starts with one symptom, but attention moves toward the most frightening part of the information environment.

3.4 Availability Bias

Availability bias refers to the tendency to judge risk according to examples that are easy to remember. In online symptom checking, this bias often appears when users read vivid disease stories, extreme cases, or personal illness experiences. These stories may not represent the most common situation, but they are concrete and emotionally strong. Because they are easy to recall, they may make serious illness feel more likely than it really is.

For example, a user with stomach pain may first search for common causes. The results may mention irregular eating, stress, indigestion, or gastritis. These explanations are ordinary and not very memorable. But if the user then reads a post saying that someone's early cancer symptom was only mild stomach pain, the story may stay in the mind. The user may begin to think, "That person also thought it was nothing. What if I am the same?"

This kind of story has a different effect from general medical information. A medical explanation may talk about probability, warning signs, and common causes. A personal story usually has a clear plot: a small symptom was ignored, the disease was later discovered, and the person regretted not acting earlier. Such a story is easy to imagine and difficult to forget. It gives the user a strong emotional picture, even if it cannot show how likely the disease is.

Availability bias can also change later searches. After reading one frightening case, the user may search for similar stories. The search terms become more specific, and the information found becomes more alarming. The user may no longer ask, "What commonly causes this symptom?" but instead asks, "Can this symptom be cancer?" or "Did anyone

have this symptom before diagnosis?" The search then moves toward examples that strengthen worry. The problem is not that personal illness stories should never be read. They can remind people to care about health and seek help when symptoms are serious. The risk appears when one memorable story is treated as a likely outcome. For people with health anxiety, a vivid case may feel more convincing than a calm explanation. The body is then interpreted through the memory of that case, and ordinary sensations begin to carry a heavier meaning (Rachman, 2012).

4. Emotional Reinforcement in the Search Cycle

The strongest problem in online symptom checking is not one single search. It is the cycle created by repeated searching. A user feels a bodily sensation, becomes worried, searches online for an explanation, feels calmer for a short time, then finds new risk information or notices the symptom again. Anxiety returns, and the user searches once more (White & Horvitz, 2009). The behavior looks like information seeking on the surface, but emotionally it becomes a repeated attempt to remove fear.

This cycle often begins with uncertainty. The user may not know whether a symptom is normal, temporary, or dangerous. Online searching offers a quick sense of action. Instead of waiting, tolerating the discomfort, or making a medical appointment, the user can immediately do something. This action itself may reduce anxiety for a moment. The screen gives the feeling that the problem is being handled. The relief, however, is usually unstable. The user may read that chest tightness can be related to stress, fatigue, lack of sleep, or anxiety. This explanation may feel comforting at first. Yet the same search may also mention heart disease, emergency symptoms, or sudden danger. Even if these serious possibilities are rare, they remain in the user's mind. The user may then start checking heartbeat, breathing, chest pressure, or whether the pain spreads. The search has not ended the worry. It has given the worry a new direction.

A typical case can be seen when a person feels chest tightness after staying up late. At the beginning, the

person may search to confirm that the feeling is caused by tiredness. After reading some ordinary explanations, the person may feel safer. But if heart-related information appears, the body is no longer experienced in the same way. The user may begin to count heartbeats, test breathing, press the chest, or search "young people heart attack symptoms." The more carefully the body is checked, the more suspicious it feels. The original discomfort may be mild, but attention and fear make it harder to ignore. This is how reassurance becomes reinforcing. Searching gives short relief, so the user learns to use searching whenever anxiety appears. But because the relief is short, the user also learns that one search is not enough. Another search may be needed to feel certain. Then another. Over time, the user becomes less able to tolerate not knowing (Fergus, 2013). The question changes from "What might this symptom mean?" to "How can I be completely sure that nothing is wrong?"

Body monitoring makes the cycle stronger. After searching, users may become more sensitive to small sensations. A brief heartbeat change, a slight stomach movement, a moment of dizziness, or a small pain may be noticed more clearly than before. These sensations may be normal, but they are now read through fear. The user checks the body, finds something uncertain, and returns to the search. Searching and monitoring support each other.

The same pattern may happen at night. A user may feel a mild symptom before sleep and decide to search only for a few minutes. But night often makes bodily sensations feel stronger. There are fewer distractions, and the user has more time to focus on the body. One search leads to another, and alarming information becomes harder to dismiss. The user becomes more awake, more tense, and more aware of every small sensation. Poor sleep may then create more headache, stomach discomfort, or rapid heartbeat the next day, which can start the cycle again.

The emotional reinforcement of online symptom checking lies in this repeated connection between anxiety and relief. The user does not search because searching always helps. The user searches because it

sometimes helps for a short time. That short relief is enough to keep the behavior going. The deeper problem is that the person becomes dependent on external confirmation. Safety has to be checked again and again, rather than gradually felt and accepted.

5. Digital Health Information and Uncertainty

Online health information often gives users more possibilities, but not always more certainty. A single symptom may be linked with many causes. Some are common and mild, such as fatigue, stress, poor sleep, indigestion, or temporary inflammation. Others are rare but serious. When these explanations appear together, users may find it difficult to judge which one is more likely.

This difficulty is especially clear in symptom checking. A user may enter "stomach pain," "nausea," or "rapid heartbeat" into a search engine or a symptom-checking tool. The results may include ordinary causes, medical warning signs, and suggestions for further consultation. These results are not necessarily wrong. The problem is that they often present possibilities without helping users understand probability. For a user with health anxiety, even a small serious possibility may feel urgent.

Different sources can also create confusion. Medical websites, hospital articles, health apps, short videos, social media posts, and patient stories do not speak in the same way. Some use cautious medical language. Some use dramatic titles to attract attention. Some are based on personal experience rather than general medical knowledge. When users move between these sources, they may receive mixed messages. One page says the symptom is usually not serious, while another warns that it should not be ignored.

Symptom-checking tools may add to this uncertainty. They are designed to guide users, but they cannot replace clinical judgment. When a user enters several symptoms, the tool may list a range of possible conditions. The user may only remember the most serious one. Instead of feeling guided, the user may feel exposed to more risks. The tool gives

possible answers, but not the kind of certainty the anxious user wants.

Social media health content can make the situation more emotionally charged. A short video titled "Do not ignore these symptoms" may encourage users to pay attention to health, but it can also make ordinary bodily feelings appear dangerous. Patient stories have a similar effect. They are vivid, personal, and easy to remember. A rare case may begin to feel like a warning aimed directly at the user.

The uncertainty of online health information is not only a problem of misinformation. Even accurate information may increase anxiety when it is read without context. Medical information often depends on age, medical history, symptom duration, severity, accompanying signs, and clinical examination. Online searching cannot fully place the user's body into this context. The user receives fragments of medical knowledge, but not a complete medical judgment.

For this reason, digital health information can become a difficult environment for people with health anxiety. It offers quick access, but it also leaves many questions open. The user may search to reduce uncertainty, but each result may introduce new possibilities. When certainty becomes the main goal, online symptom checking can become endless.

6. Psychological Risks and Help-Seeking Behavior

Online symptom checking may affect not only how users feel, but also how they seek medical help. For some users, repeated searching makes them more likely to visit doctors again and again. For others, it may delay proper medical care because they keep searching instead of making a clear decision. Both patterns show that anxiety can disturb normal help-seeking behavior.

One common risk is repeated medical reassurance. A user may visit a doctor, receive a normal test result, and be told that the symptom is not serious. For a short time, this may reduce anxiety. But after returning home, the user may search the symptom or the test result again. If online information mentions rare risks, the user may begin to doubt whether the doctor missed something. The person

may then ask another doctor, request more tests, or continue searching for a more certain answer.

This can be seen in the case of a mildly abnormal physical examination result. A doctor may explain that the number is only slightly outside the reference range and can be observed or rechecked later. But the user may search the name of the indicator and read many possible disease links. The more explanations the user finds, the harder it becomes to accept the doctor's calm judgment. The problem is no longer only the indicator itself. It becomes a question of whether enough confirmation has been obtained.

Another risk is delayed help-seeking. Some users become so confused by online information that they do not know what to do next. They may feel afraid of a serious diagnosis, but also afraid of ignoring the symptom. Searching becomes a way to postpone action. The user keeps reading, comparing, and checking, hoping that the next result will make the decision easier. In this situation, online symptom checking may create movement without real progress.

Daily life may also be affected. Users may check symptoms during work, study, meals, or before sleep. They may ask family members repeatedly whether a symptom seems serious. They may avoid exercise, certain foods, or ordinary activities because they are afraid of triggering symptoms. Some may spend a long time reading health posts at night, which then affects sleep and makes bodily discomfort worse the next day.

These risks do not mean that users should avoid all online health information. The issue is the loss of balance. When online searching becomes the main way to feel safe, users may become less able to tolerate uncertainty and less able to trust ordinary explanations (McMullan et al., 2019). Help-seeking then becomes driven by fear rather than by the actual severity of the symptom.

7. Psychological Intervention and Health Information Guidance

The problem of online symptom checking cannot be solved by simply telling users not to search. For

many people, searching is already part of everyday health behavior. A more realistic approach is to help users understand when searching is useful and when it begins to maintain anxiety. The key is not to remove all online health information, but to reduce the repeated use of searching as a way to obtain reassurance.

Psychological education is a necessary starting point. Users need to understand that reassurance can bring short relief, but this relief may not last. When a person searches every time anxiety appears, the body gradually becomes something that must be checked again and again. The user may feel safer for a few minutes, but the habit of searching becomes stronger. Explaining this pattern can help users see that repeated checking is not a neutral behavior. It is part of the anxiety cycle.

Cognitive adjustment is also important. People with health anxiety often confuse possibility with probability. A disease may be possible, but that does not mean it is likely. Online information often lists many possible causes, including rare and serious ones. Users should learn to ask a different question: not "Could this symptom ever mean something serious?" but "What is the most reasonable explanation in this situation?" This small change can reduce catastrophic interpretation.

Behavioral strategies can help weaken the search cycle. Users may set limits on symptom searching, avoid repeated searches for the same symptom, and delay searching when anxiety first appears. They can also avoid searching late at night, because tiredness, quiet surroundings, and lack of distraction often make bodily sensations feel stronger. If the urge to search is strong, the user can write down the worry first, wait for a short period, and then decide whether searching is still necessary. Health information guidance should also be strengthened. Users need to rely more on stable and professional sources, and less on dramatic titles, patient stories, or short videos that use fear to attract attention. Personal illness stories may be moving, but they cannot replace medical judgment. A vivid case does not show how likely the same disease is for another person. Users should also pay attention

to context, such as symptom duration, severity, age, medical history, and accompanying signs. Medical help should not be delayed when symptoms are severe, persistent, or clearly unusual. Online searching can support health awareness, but it should not replace consultation when professional judgment is needed. At the same time, when medical results are normal and doctors have given clear explanations, repeated online searching may not provide better safety. It may only reopen the same doubt.

The final goal is to build a healthier relationship with uncertainty. Human bodies always produce small sensations, and not every sensation can be explained immediately. Users need room to observe, wait, and make reasonable decisions without turning every discomfort into an emergency search. Online health information can be useful, but it should serve judgment rather than fear. When searching is no longer used as constant reassurance, health anxiety becomes easier to manage.

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