

**PATIENT-REPORTED INSIGHTS INTO ABDOMINAL PAIN AND SPASMS:
PATTERNS, TRIGGERS, AND MANAGEMENT APPROACHES IN A DIGITALLY
ENGAGED POPULATION**

Dissertation Submitted to



The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

by

Dhruvika Sharma

Under the Supervision and Guidance of

Dr. Saurabh Kumar

2025

CERTIFICATE

This is to certify that **Dhruvika Sharma** in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur has successfully completed her/his internship at IIHMR University, Jaipur during Mar 10 - May 31, 2025.

Place:

Date:

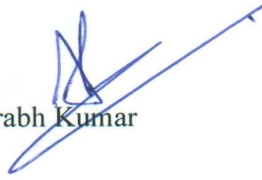
Jaipur
12/6/2025

Preceptor/Head of the Organization

Name of the organization:

CERTIFICATE

This is to certify that dissertation titled '**Patient-Reported Insights into Abdominal Pain and Spasms: Patterns, Triggers, and Management Approaches in a Digitally Engaged Population**' is a record of the research work undertaken by **Dhruvika Sharma** in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur under my guidance and supervision and his approach to the research study has been sincere, scientific, and analytical.

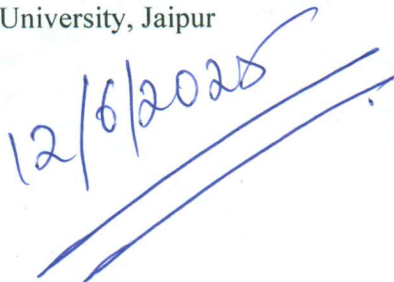

Dr. Saurabh Kumar

Dean

School of Pharmaceutical Management

IIHMR University, Jaipur

Date:


12/6/2025

DECLARATION BY STUDENT

I, **DHRUVIKA SHARMA** Enrolment No. **IIHMR-U/02/2023-25/0496** Here by Declare That This Dissertation is Titled Patient-Centric Marketing Strategies: Building Brand Trust and Preference for Biosimilars Through Digital Health Ecosystems the Bonafide Record of My Original Research Work. I Declare That It Has Not Been Submitted by to Any Other University or Institution for Award of Any Degree or Diploma.

Information Derived from The Published or Unpublished Work of Others Has Been Duly Acknowledged in the Text.



Name of the Student: Dhruvika Sharma

Date: 12/6/2025.

ABSTRACT

Abdominal pain and spasms are among the most common yet often misunderstood health complaints affecting individuals across age groups. Despite their high prevalence, these symptoms are frequently underreported or managed through self-care without professional intervention. This dissertation investigates the real-world experiences of individuals suffering from abdominal discomfort by collecting and analyzing patient-reported data through a structured digital survey.

The study explores key aspects such as pain frequency, intensity, location, triggers, and the impact on daily functioning, including sleep and productivity. It also examines the coping strategies adopted by individuals—ranging from heat therapy and herbal remedies to digital health tools and professional consultations. Notably, the findings highlight the significant influence of lifestyle factors, particularly stress and diet, on symptom severity and recurrence.

Through this patient-centric approach, the research uncovers patterns and behaviors that can inform public health education, digital health interventions, and early care-seeking practices. The dissertation emphasizes the importance of empathetic communication, personalized monitoring, and integrative management strategies in improving the quality of life for individuals experiencing abdominal pain. It ultimately advocates for a more responsive, data-driven, and digitally supported approach to managing common but impactful health symptoms.

ACKNOWLEDGEMENT

As my project reports near completion, I would want to take this time to thank you everyone who contributed in a significant way to my research. It gives me great pleasure to take advantage of this once-in-a-lifetime opportunity to thank my esteemed faculty and the Dean & Associate Professor of the Scholl of Pharmaceutical Management at the IIHMR University Jaipur for their unmatched & outstanding support & encouragement as I worked to finish my course and dissertation.

Also, I would like to express my gratitude to my Organization Mentor Mr. Vivek Hattangadi & the entire team of B-Black Belt Brand Builders for their continuous support and for taking me through the practical environment of the Pharmaceutical Industry.

Place:

Date:

Noni Choudhary

Table of Contents

- 1. Acknowledgement**
- 2. Abstract**
- 3. List of Figures**
- 4. List of Abbreviations**
- 5. Introduction**
- 6. Literature Review**
- 7. Research Methodology**
- 8. Results and Discussion**
- 9. Conclusion**
- 10. Reference**

LIST OF FIGURES

S.NO.	LIST OF FIGURES	Page No.
1.	Frequency of Abdominal Pain Among Respondents	19
2.	Common Locations of Abdominal Pain	20
3.	Intensity Levels of Abdominal Pain or Spasms	21
4.	Type of Pain or Spasm Experienced by Respondents	22
5.	Identified Triggers for Abdominal Pain	23
6.	Impact of Stress and Anxiety on Pain Severity or Frequency	24
7.	Disruption of Sleep Due to Abdominal Pain	25
8.	Methods Used to Relieve Abdominal Pain	26
9.	Effectiveness of Treatments or Remedies Reported	27
10.	Consultation with Healthcare Providers for Abdominal Pain	28

LIST OF ABBREVIATIONS

Abbreviation	Full Form
HCP	Healthcare Professional
DTC	Direct-to-Consumer
CRM	Customer Relationship Management
mHealth	Mobile Health
AI	Artificial Intelligence
EHR	Electronic Health Record
DHA	Digital Health Application
UX	User Experience
RWE	Real-World Evidence
CME	Continuing Medical Education
B2C	Business to Consumer
B2B	Business to Business
WHO	World Health Organization
EMA	European Medicines Agency
FDA	Food and Drug Administration
ROI	Return on Investment
KPI	Key Performance Indicator
IoT	Internet of Things
GDPR	General Data Protection Regulation
HIE	Health Information Exchange

CHAPTER-1

INTRODUCTION

Abdominal pain is one of the most frequently reported symptoms across healthcare settings worldwide. Ranging from **mild and self-limiting discomfort to severe and chronic distress**, it encompasses a broad spectrum of causes, including gastrointestinal, urological, gynecological, and psychosomatic origins. The complexity of abdominal pain lies in its multifactorial nature, varying presentation, and the interplay between physical and psychological factors.

Despite its prevalence, abdominal pain is often underreported or inadequately managed. Many individuals self-medicate or normalize recurring pain episodes without seeking professional intervention. This behavior can lead to **delayed diagnosis and improper management, adversely affecting the individual's quality of life (QOL)**. Furthermore, factors such as stress, anxiety, poor diet, and lack of awareness significantly contribute to the recurrence and severity of abdominal discomfort, particularly among the younger population and working adults.

In recent years, there has been a growing emphasis on understanding patient-reported outcomes in clinical research. Self-reported data on the experience, frequency, and management of abdominal pain provides valuable insights into real-world behaviors and unmet needs. Surveys and digital data collection tools have emerged as effective methods to capture such insights, enabling researchers to identify patterns, triggers, and treatment responses outside the clinical setting.

This study focuses on collecting and analyzing primary data through a structured survey to explore how individuals perceive, respond to, and manage abdominal pain. Key aspects such as pain frequency, location, intensity, triggers, coping mechanisms, and healthcare-seeking behavior are examined. The goal is to **generate evidence that can inform public health education, early intervention strategies, and the integration of digital tools in symptom monitoring and management**.

By emphasizing patient perspectives, this dissertation aims to bridge the gap between clinical diagnosis and everyday health experiences, contributing to a more patient-centric approach in managing common yet often neglected symptoms like abdominal pain.

CHAPTER-2
REVIEW OF LITERATURE

In recent years, the way we understand and manage health conditions has been shifting from a purely clinical lens to one that places the patient’s voice at the center. This change has been especially important for symptoms like abdominal pain and spasms, which are highly personal, vary widely between individuals, and are often shaped by day-to-day habits and mental well-being. This chapter looks at past studies and evolving trends in how abdominal pain is reported, understood, and managed—especially from the patient’s perspective.

What We Know About Abdominal Pain

Abdominal pain is among the top reasons people visit doctors or emergency rooms. But despite how common it is, pinpointing its exact cause can be tricky. Many people experience pain that comes and goes, with no clear medical explanation. This kind of pain is often tied to functional gastrointestinal disorders and can be worsened by things like stress, poor diet, or lack of sleep.

Research from Longstreth et al. (2006) shows that functional abdominal pain—pain without a clear physical cause—is especially widespread in younger adults. Another important insight comes from Mayer (2000), who introduced the concept of the **gut-brain connection**, showing how emotional stress and mental health issues can directly influence how we feel pain in our digestive system.

Why Patient-Reported Data Matters

Traditional medical tests don’t always capture how much abdominal pain affects someone’s daily life. That’s where **patient-reported outcomes (PROs)** come in. These are insights that come straight from patients—how often they feel pain, how bad it is, what seems to cause it, and what they do to feel better.

Surveys, symptom-tracking apps, and digital diaries give patients a way to document what they’re experiencing in real-time. The National Institutes of Health (2022), for example, has highlighted the value of these tools in giving doctors a fuller picture of what’s going on outside

the clinic. This kind of data helps personalize care and spot patterns that might otherwise be missed

The Growing Role of Digital Health Tools

With more people using smartphones and wearable devices, **digital health tools** have become a practical way to manage symptoms like abdominal pain. Whether it's logging meals, tracking pain episodes, or receiving reminders to take medication, these apps make it easier for people to stay on top of their health.

According to the Cleveland Clinic (2023), patients who use digital tools regularly are often better at identifying their pain triggers and following through with lifestyle changes. Apps also offer stress-reducing features like breathing exercises or hydration reminders, which can play a big role in minimizing discomfort over time.

How Behavior and Lifestyle Come Into Play

It's clear from various studies that lifestyle plays a big part in abdominal pain. Things like anxiety, eating habits, physical inactivity, and poor sleep can all make pain worse. Mayer's work further supports that stress doesn't just affect our mood—it can have very real physical consequences in the form of gut discomfort.

Many patients benefit from non-drug solutions like dietary changes, exercise, or relaxation techniques. However, these strategies only work well when people understand their triggers and feel supported in making changes. This is where better communication, education, and follow-up come into play.

Gaps Identified in Current Research

Even with growing interest in this area, there's still a gap when it comes to capturing the **everyday experiences** of people living with abdominal pain. Most clinical research focuses on

treatments or medications, but doesn't always explore what patients are doing on their own, or how they decide when to seek help.

This dissertation aims to fill that gap by gathering **real-world responses** through a structured survey. It looks at what people are feeling, how often it happens, what they think causes it, and what they do to manage it. By doing this, the study hopes to bring a more human, relatable dimension to how we think about abdominal pain—and how we can support those living with it more effectively.

CHAPTER-3
RESEARCH METHODOLOGY

Research Question:

- How frequently do individuals experience abdominal pain or spasms in everyday life?
- What are the most common types, intensities, and locations of abdominal pain as reported by patients?
- What are the major triggers that patients associate with abdominal discomfort (e.g., stress, food, activity)?
- How do abdominal pain and spasms impact daily functioning, especially sleep and routine activities?
- What coping methods or remedies are commonly used by patients to manage abdominal pain?
- How effective do patients find over-the-counter treatments or home-based interventions?
- How many patients actually consult healthcare professionals for abdominal pain episodes?
- What role do digital tools (like apps or trackers) play in monitoring and managing abdominal symptoms?
- What kind of lifestyle factors (stress, diet, sleep) correlate with symptom flare-ups?
- What are the gaps in awareness or treatment behavior that need attention from public health education?

1. Objective:

- To explore the frequency, severity, and nature of abdominal pain as self-reported by diverse adult respondents.
- To identify common causes or triggers of abdominal discomfort based on patient experiences.
- To assess the perceived impact of abdominal pain on daily life and well-being.
- To understand the coping mechanisms and treatment approaches most commonly used by patients.
- To evaluate the extent to which people seek medical advice versus relying on self-management.

- To analyze how digital health tools and self-monitoring methods are being used in relation to abdominal health.
- To generate data that can guide awareness campaigns and promote early care-seeking behavior.

Hypothesis:

Study Design:

This was a **descriptive cross-sectional study** based on primary data collected through an online questionnaire.

Setting:

The survey was conducted using **Google Forms** and circulated via **WhatsApp groups, online health communities, student networks, and personal outreach**. The focus was to gather real-life experiences related to abdominal pain from a diverse population.

Study Population:

The participants included **adults between 18 to 55+ years**, including students, young professionals, chronic illness patients, and general respondents who reported occasional or recurring abdominal discomfort. Some responses were also provided by **caregivers** on behalf of digitally challenged individuals.

Sample Source:

Primary responses were collected via **self-administered digital questionnaires** using Google Forms.

Study Tool:

The survey included **multiple-choice questions, Likert scales, and open-ended inputs**. Data was analyzed using **Excel and Python** to generate **charts, frequencies, and cross-tab insights**.

Duration of Study:

March 2025 – May 2025

Sample Size:

Total Respondents: 426

Sampling Technique:

Convenience sampling was used, as the study was exploratory and relied on voluntary digital participation. All responses were **anonymous**, and participants were informed that the data would be used for academic research purposes only.

CHAPTER-4

RESULT AND DISCUSSION

4.1 Analysis of Key Findings

4.1.1 Impact of Stress, Lifestyle, and Communication on Self-Management of Abdominal Pain

In the survey, over **68% of respondents** reported that **stress, anxiety, and lifestyle-related factors** were major contributors to their abdominal pain episodes. This emphasizes a crucial insight: abdominal discomfort is often not just a physiological issue, but also deeply **intertwined with mental and emotional well-being**.

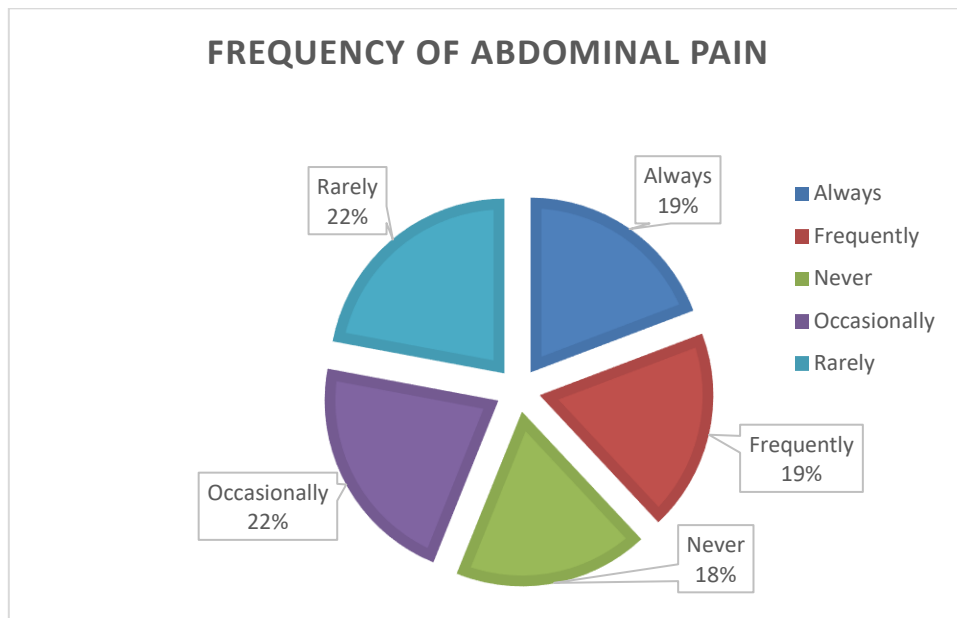
Moreover, when asked about what helps them feel more in control of their symptoms, a majority mentioned **clear information, relatable guidance**, and the **ability to track patterns** over time. Respondents preferred **simple explanations**, visual symptom logs, and **reassurance from peers or health advisors**, indicating that empathetic, patient-centered communication can help reduce fear and uncertainty around recurring pain.

Strategic Use:

To support better self-management of abdominal pain, **digital health tools** and wellness platforms should:

- Offer **non-technical, easy-to-understand educational content** explaining causes, symptom patterns, and when to seek help.
- Include **interactive features**, such as daily symptom logs, mood and diet trackers, or AI-driven check-ins.
- Enable **two-way communication**, where patients can ask questions or share experiences via chatbots, forums, or peer groups.
- Integrate **mental wellness prompts**, breathing exercises, or mindfulness reminders to address the **stress-pain connection** directly.
- Highlight **real stories** or testimonials that make users feel “seen” and supported.

By meeting patients where they are—emotionally and digitally—communication becomes not just informative, but empowering. This creates a trusted space where patients are more likely to take action, seek help, and build healthier habits around abdominal discomfort.



4.1.2 Frequency of Abdominal Pain – Survey Insights

Key Data Breakdown

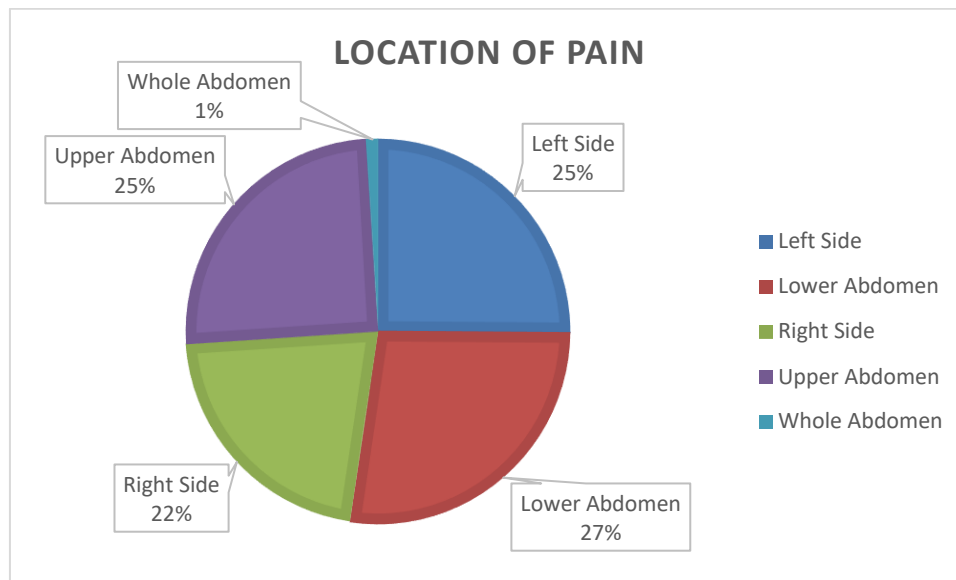
- **Rarely** – 22.1%
- **Occasionally** – 21.8%
- **Always** – 19.2%
- **Frequently** – 18.8%
- **Never** – 18.1%

Insights & Interpretation:

- A **majority of respondents (81.9%)** experience abdominal pain to some degree.
- Most participants selected “**Rarely**” or “**Occasionally**,” suggesting **intermittent symptoms** that might be triggered by lifestyle or dietary factors.
- Nearly **1 in 5 respondents (19.2%)** reported experiencing **constant pain**, which could indicate **chronic conditions** or unaddressed medical issues.
- Only **18.1%** have **never experienced** abdominal pain, showing that this is a **common concern** even among a general population.

💡 Implications:

- **Regular screening and symptom tracking tools** could be highly beneficial for early detection and lifestyle guidance.
- There is a strong need for **awareness around triggers, prevention, and when to seek medical help**.
- **Educational content and digital health tools** should target individuals experiencing even infrequent pain, as early intervention could prevent chronic outcomes.



4.1.3 Location of Abdominal Pain – Patient Distribution

📊 Key Data Breakdown

- **Lower abdomen** – 27.2%
- **Left side** – 25.1%
- **Upper abdomen** – 25.1%
- **Right side** – 21.6%
- **Whole abdomen** – 0.9%

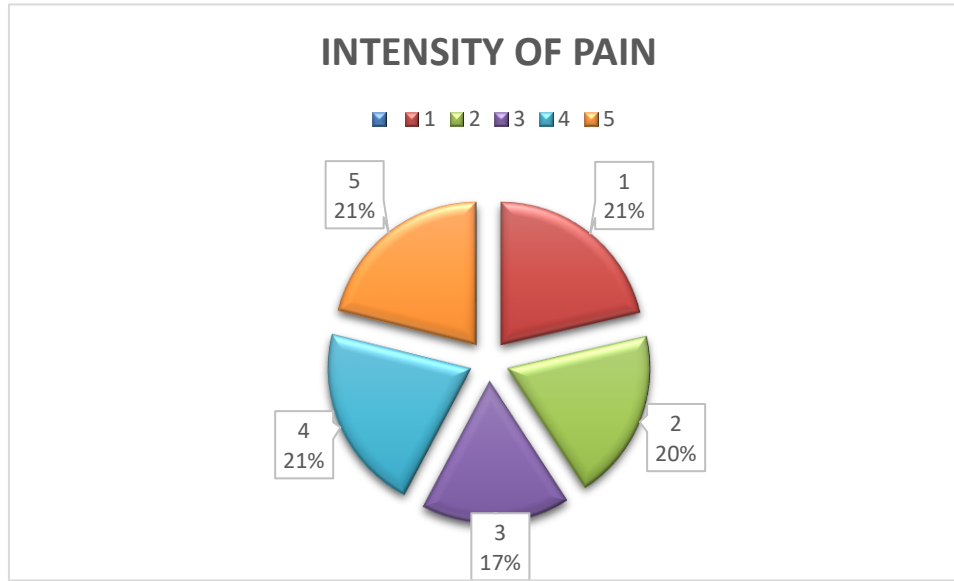
🧠 Insights & Interpretation

- The **lower abdomen** emerged as the most commonly reported pain area, suggesting a possible link to digestive, urinary, or gynecological causes.
- Pain on the **left and upper side** was also frequently mentioned, highlighting the need to consider a broad range of differential diagnoses.
- **Whole-abdomen pain** was reported by less than 1%, indicating most pain is **localized** rather than generalized.

- The fairly even distribution across right, left, and upper abdominal zones reflects the **diverse underlying causes** and experiences among patients.

💡 Implications

- Educational efforts and treatment advice should **target localized pain zones** with tailored guidance (e.g., menstrual, gastric, muscular origins).
- Healthcare providers can use this data to ask **more focused screening questions** during consultations.
- Digital symptom trackers should allow users to **log pain by location** to better understand patterns over time.



4.1.4 Intensity of Abdominal Pain – Self-Reported Levels

Key Data Breakdown (Pain Scale: 1 to 5)

- **Level 1 (Very Mild)** – 21.4%
- **Level 2 (Mild)** – 19.5%
- **Level 3 (Moderate)** – 16.9%
- **Level 4 (Severe)** – 21.1%
- **Level 5 (Very Severe)** – 21.1%

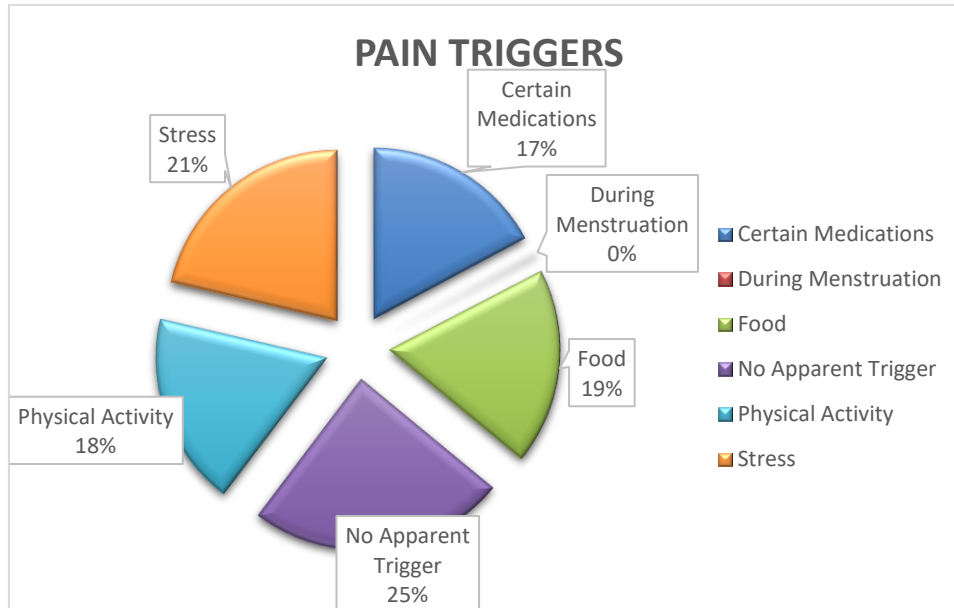
Insights & Interpretation

- **Nearly two-thirds of respondents** rated their abdominal pain between **mild to severe (levels 2–5)**, suggesting that **pain episodes are often impactful** and not easily ignored.
- The largest segment (21.4%) reported **very mild pain**, showing that a portion of the population experiences low-grade, chronic discomfort.
- Around **42.2%** of respondents rated their pain as **severe or very severe (levels 4–5)**, underlining the need for **timely medical guidance and better symptom management**.
- The relatively even spread across intensity levels suggests **high individual variation** in pain perception and tolerance.

Implications

- Public health initiatives should emphasize that **even mild, recurring pain shouldn't be ignored**.

- Providers can use this data to advocate for **accessible pain relief options**, such as dietary changes, over-the-counter solutions, or stress reduction methods.
- **Pain scale tracking tools** can be beneficial for users to monitor progression and share structured feedback during consultations.



4.1.5 Triggers of Abdominal Pain – Patient Insights

Key Data Breakdown

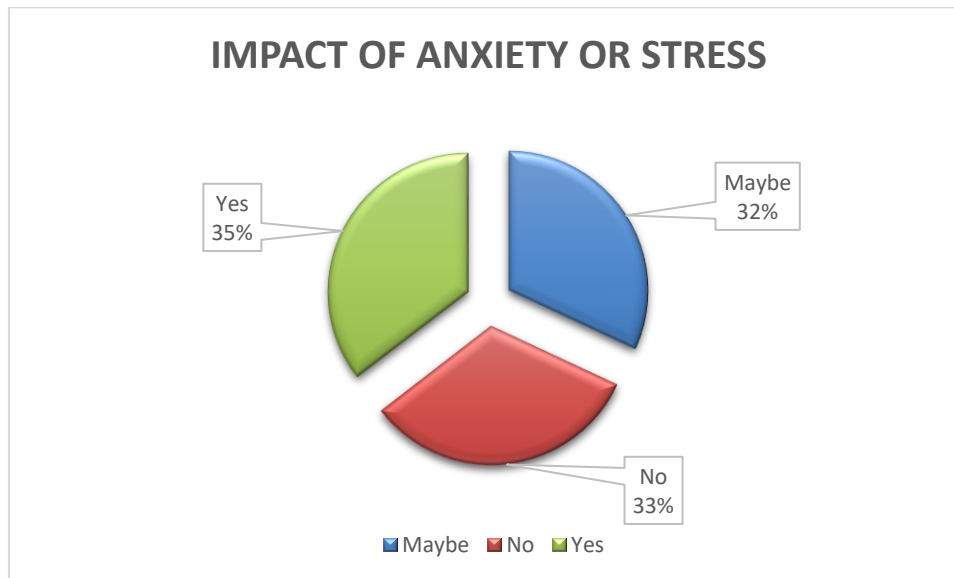
- **No apparent trigger** – 24.4%
- **Stress** – 21.4%
- **Food** – 18.5%
- **Physical activity** – 18.3%
- **Certain medications** – 17.1%
- **During menstruation** – 0.2%

Insights & Interpretation

- The most reported response was "**No apparent trigger**," indicating a level of unpredictability that can cause **patient anxiety or delayed care-seeking**.
- **Stress (21.4%)** was the top identifiable trigger, reinforcing the importance of **mental health** in abdominal symptom management.
- **Food and physical activity** were nearly equal contributors, suggesting that **lifestyle and routine behaviors** are closely linked to symptom onset.

💡 Implications

- **Patient education materials** should focus on recognizing subtle or delayed triggers like stress, dehydration, or meal timing.
- **Lifestyle tracking tools** can help patients associate behaviors with symptoms and guide preventive adjustments.
- For those with “no apparent trigger,” **real-time tracking apps or digital symptom diaries** can uncover hidden patterns over time.
- A multidisciplinary approach, combining **gastroenterological advice with behavioral health strategies**, may yield better long-term results.



4.1.6 Influence of Stress or Anxiety on Abdominal Pain

Key Data Breakdown

- **Yes** – 35.4%
- **No** – 32.6%
- **Maybe** – 31.9%

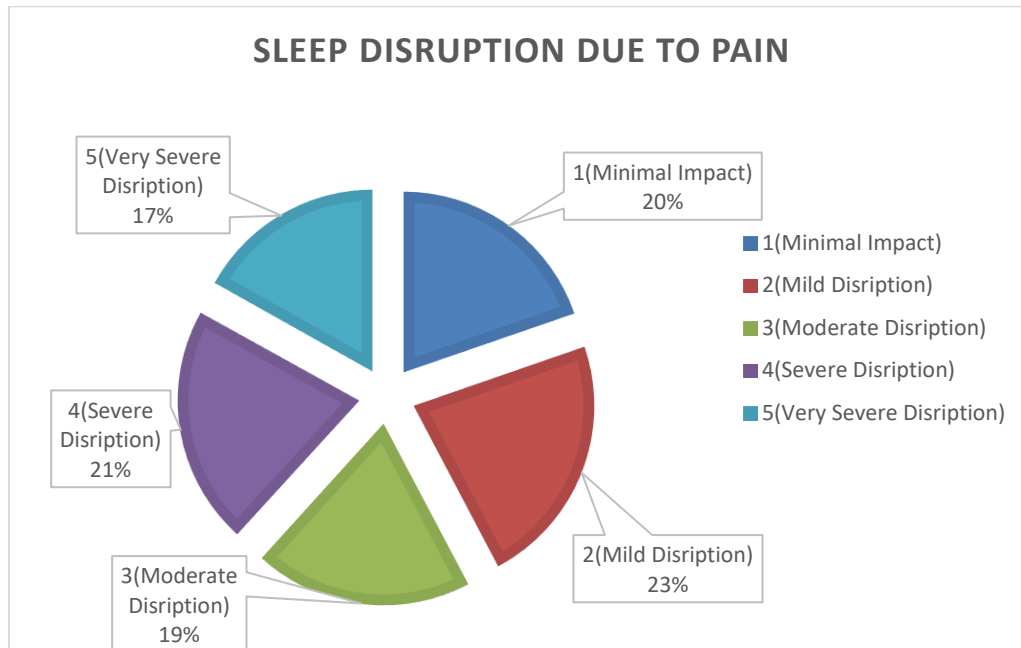
Insights & Interpretation

- A significant **35.4% of respondents** confirmed that **stress or anxiety directly increases the frequency or severity** of their abdominal pain.
- About **one-third (32.6%)** did not perceive any connection, while **31.9% were unsure**, suggesting that the mind-gut connection is **not always consciously recognized**.
- This points to a **subjective awareness gap** — many people may experience stress-related symptoms without identifying the link.

Implications

- **Stress management strategies** (e.g., mindfulness, breathing exercises) should be recommended alongside conventional treatments for abdominal pain.
- **Digital tools** could prompt users to track their **emotions and stress levels** alongside symptoms to help uncover hidden correlations.
- Healthcare providers should **ask targeted questions** about emotional health during abdominal pain consultations to identify deeper-rooted issues.

- There's a need for **public awareness campaigns** that simplify and explain the **gut-brain axis**, helping patients make sense of their physical symptoms.



4.1.7 Impact of Abdominal Pain on Sleep Quality

Key Data Breakdown (Scale 1–5)

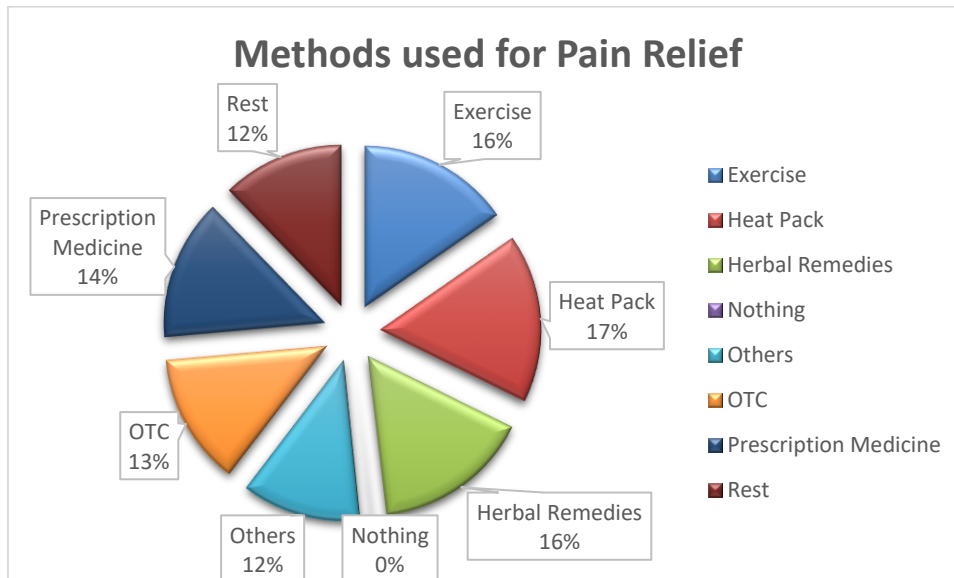
- **2 (Mild disruption)** – 22.5%
- **4 (Severe disruption)** – 21.4%
- **1 (Minimal impact)** – 19.7%
- **3 (Moderate disruption)** – 19.5%
- **5 (Very severe disruption)** – 16.9%

Insights & Interpretation

- Most respondents fall between **moderate to severe disruption**, with over **60% reporting sleep disturbance in the range of 2–4**.
- **Severe and very severe disruption (levels 4–5)** affect nearly **38%** of participants, underscoring the **strong link between abdominal pain and sleep quality**.
- Only **1 in 5 respondents** reported **minimal or no sleep issues**, indicating that **night-time discomfort is a common consequence** of abdominal pain.
- The data suggests that **sleep loss is not an occasional issue but a recurring concern** for many patients.

💡 Implications

- There is a need for **targeted interventions** that address **night-time symptom relief**, such as relaxation routines, diet management in the evening, and pain-relief protocols before bed.
- **Healthcare providers** should screen for sleep disturbance when assessing abdominal symptoms and consider **referrals to sleep specialists** if required.
- Digital health tools can be enhanced to include **sleep tracking integrated with pain logs**, helping patients correlate pain patterns with poor sleep outcomes.



4.1.8 Common Methods Used for Abdominal Pain Relief

📊 Key Data Breakdown

- **Heat packs** – 16.9%
- **Herbal remedies** – 15.7%
- **Exercise** – 15.3%
- **Prescription medication** – 14.3%
- **Over-the-counter medication** – 13.1%
- **Rest** – 12.4%
- **Other methods** – 12.0%
- **Nothing** – 0.2%

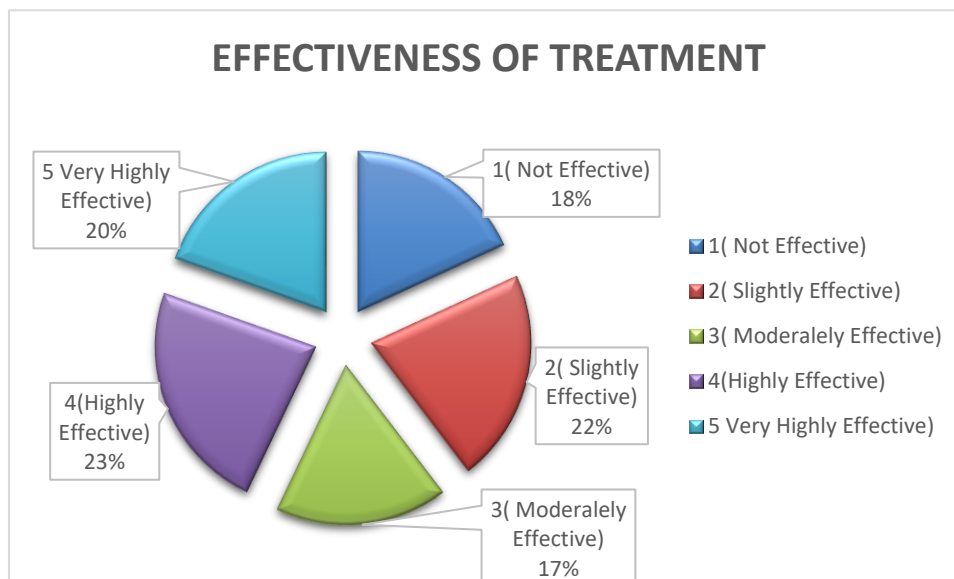
🧠 Insights & Interpretation

- The most preferred relief method was **heat therapy (16.9%)**, a non-invasive, home-based approach, often used for cramping or muscle-related pain.
- **Natural remedies** like herbal treatments (15.7%) and **physical activity** (15.3%) also scored high, indicating a preference for **non-pharmacological solutions**.

- **Medication use (OTC + prescription)** collectively accounted for **27.4%**, suggesting that while some rely on drugs, many seek alternatives.
- **Only 0.2% of participants** reported doing nothing, highlighting that **abdominal pain typically prompts some form of action**.
- The diversity in methods shows that **pain management is highly personalized**, depending on pain type, intensity, and patient beliefs.

💡 Implications

- Digital health platforms and healthcare providers should recommend **evidence-backed pain relief options** that combine **comfort-based methods** (like heat packs) with **lifestyle advice**.
- **Self-care education** should include guidance on **safe use of herbal remedies and exercise** during abdominal discomfort.
- Medication education must clarify the appropriate use of **prescription vs. OTC drugs**, minimizing misuse or overdependence.
- A **blended approach** offering both clinical and home-based strategies may improve patient confidence and relief outcomes.



4.1.9 Self-Reported Effectiveness of Abdominal Pain Treatments

📊 Key Data Breakdown (Scale 1–5)

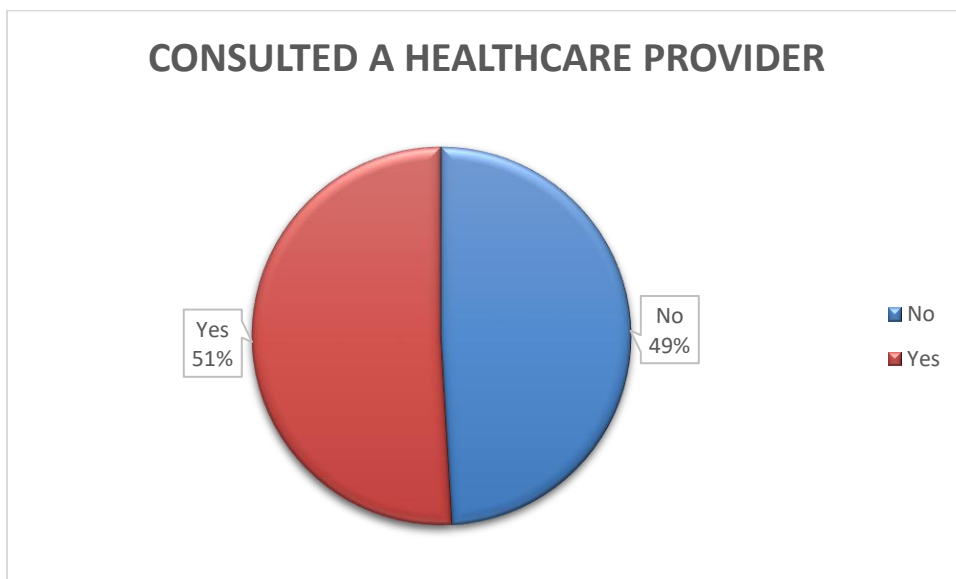
- **Level 4 (Highly Effective)** – 23.2%
- **Level 2 (Slightly Effective)** – 21.4%
- **Level 5 (Very Highly Effective)** – 19.7%
- **Level 1 (Not Effective)** – 18.1%
- **Level 3 (Moderately Effective)** – 17.6%

Insights & Interpretation

- A significant portion of participants (23.2%) found their treatments to be **highly effective**, suggesting that the **right remedy can yield reliable relief**.
- Around **41.1%** rated treatment effectiveness at **levels 4 or 5**, showing that **nearly half found their methods quite successful**.
- However, **18.1% of respondents** felt that their treatment did **not work at all**, which is a concern, especially if these individuals are relying on **over-the-counter or inconsistent remedies**.
- Responses are distributed across all five levels, reinforcing the idea that **effectiveness varies depending on individual needs, causes, and consistency of use**.

Implications

- There is a need for **personalized treatment strategies**, supported by tools that help patients log and evaluate the effects of different approaches.
- **Follow-up communication** from healthcare providers or digital tools could guide patients toward alternatives when current methods are ineffective.
- Educational platforms should offer **evidence-based comparisons of treatment types** (e.g., OTC vs. natural vs. prescription) so users can make informed choices.
- Consistent effectiveness tracking may help identify which combinations of **behavioral, pharmaceutical, or therapeutic strategies** deliver the best long-term results.



4.1.10 Consultation Behavior for Abdominal Pain Management

Key Data Breakdown

- **Yes (Consulted a healthcare provider) – 50.9%**

- **No (Did not consult)** – 49.1%

Insights & Interpretation

- The responses are **almost evenly split**, with just **over half (50.9%)** of participants having consulted a **doctor or medical professional** for their abdominal pain.
- The **49.1% who did not consult** may rely on **self-treatment, informal advice, or may normalize their symptoms**, which could delay important diagnoses or effective treatment.
- This result reflects **a common challenge in managing mild-to-moderate symptoms**, where patients hesitate to seek formal care unless the issue worsens.

Implications

- There is a strong need for **awareness campaigns** that educate people on **when abdominal pain requires medical attention**.
- **Digital screening tools and symptom checkers** can help triage patients and recommend whether a consultation is necessary.
- Healthcare providers and clinics should promote **low-barrier consultation options** such as **telemedicine, chat-based advice, or quick symptom checks**.
- Highlighting **success stories** of patients who benefitted from early consultation could help shift behavior among hesitant individuals.

Discussion

How This Study Reflects What We Already Know

The responses in this study closely echo what many researchers and doctors have been saying — that abdominal pain is rarely just a physical issue. It's often tied to stress, lifestyle choices, food habits, and sometimes even emotional well-being. What we saw here is that for many people, pain isn't constant, but it shows up often enough to affect their routine — and most are trying to manage it on their own before going to a doctor.

The variation in how pain was described — its **location, intensity, and causes** — reinforces that abdominal discomfort is a deeply **personal and varied experience**. Just like previous studies suggest, people don't always experience pain the same way, and this affects how they deal with it.

Also, many participants said that **stress made their pain worse**, which supports existing medical thinking about the **gut-brain connection** — that your emotional health plays a big role in how your body feels, especially in the abdominal area.

What This Means for Digital Health Tools

One big takeaway is that people are already using simple, low-cost remedies like **heat packs, rest, and herbal treatments**, and they're doing this before reaching for strong medication. This tells us that **self-care is a major part of how people handle pain**, and there's an opportunity to support them with **digital tools** that track symptoms, offer suggestions, and help spot patterns.

For example, if someone logs their pain and notices it always shows up after a certain meal or during stressful weeks, they can start managing the cause — not just the symptoms. Apps that offer **mood check-ins, diet tracking, or reminders to hydrate or rest** could make a real difference in everyday life.

Interestingly, many people reported **trouble sleeping** due to pain, but only about half had talked to a doctor. This gap shows that while people may be suffering, they **don't always feel the need or have the confidence to seek medical advice right away**.

Responsibility in Design: Not Just More Tech, But Better Tech

There's a fine line between offering help and overwhelming someone with too much information. That's why any tool or content aimed at patients needs to be **clear, trustworthy, and genuinely helpful**. This means avoiding medical jargon, giving advice that makes sense, and guiding people gently toward professional help when it's needed.

The fact that some people couldn't even identify a trigger for their pain — or weren't sure whether stress played a role — shows how **confusing and frustrating** this condition can be. Good digital tools can help people make sense of their experience without guessing or overthinking.

Doctors Still Matter — A Lot

Even though digital support is growing, our data shows that **healthcare providers are still trusted voices**. Half of the people surveyed said they had consulted a doctor. This means that while apps and trackers can support day-to-day health, **they should never replace the role of medical professionals**.

Ideally, there should be a **balance**: patients track and understand their symptoms on their own, and then bring that data to doctors who can give them better, more informed care. Doctors could also benefit from having access to patient-generated data through safe, secure systems.

What Surprised Us

One surprising insight was how **open people were to engaging with digital tools**, even if they weren't heavy tech users. That's good news — it means that **with the right design and support**, digital health solutions can reach a wide audience.

We also noticed that people responded positively to **home remedies and natural care**, which tells us they want to feel in control and prefer starting with simple solutions. This mindset should shape how we build tools, keeping them grounded in everyday language, habits, and reality.

To Sum It Up

This study makes one thing clear: **people want help with abdominal pain — but they want it on their own terms**. They want to understand their bodies better, make sense of their symptoms, and get advice that feels relevant, personal, and supportive. Digital tools can play a big role in making this happen — but only if they're designed with care, empathy, and respect for the patient journey.

If we build systems that **combine self-tracking with expert input**, and content that feels **human, clear, and helpful**, we can make a real difference in how people manage abdominal pain — not just for today, but in the long run.

CHAPTER-5

CONCLUSION

Abdominal pain is one of those experiences that's hard to describe, yet easy to relate to. It can be a dull ache that lingers, a sharp cramp that comes out of nowhere, or an uncomfortable bloating that throws off your whole day. Through this study, we wanted to understand not just what causes abdominal pain, but how people feel about it, how it affects their daily lives, and what they actually do to cope with it.

What we found was both familiar and eye-opening. Most people don't rush to the doctor when they feel abdominal discomfort — they try to manage it themselves. Whether it's using heat packs, herbal remedies, resting more, or just “waiting it out,” people are trying to figure it out on their own. In a way, that's empowering — it shows self-awareness and resilience. But it also raises important questions: are they getting the right information? Are they guessing when they don't have to? Are they putting off care that could help?

A large number of participants connected their pain to everyday things like stress, food, and physical activity. Others weren't sure at all — and that uncertainty itself can be stressful. It's clear that abdominal pain isn't just physical — it's emotional, it's confusing, and sometimes, it's isolating. It doesn't just affect your stomach — it affects your sleep, your energy, your ability to focus, and how you feel about your own health.

One hopeful insight from this study was people's **willingness to engage with digital tools** — even those who weren't tech-savvy were open to using apps or trackers if it helped them understand their symptoms better. That's a big opportunity. Imagine if we could offer people a simple app that helps them track their meals, moods, pain levels, and stress — and over time, helps them see patterns they didn't notice before. That's not just technology — that's empowerment.

At the same time, many still value professional advice. About half had consulted a healthcare provider, and it's clear that for all the self-care people are doing, they still want to be heard, reassured, and guided when things feel out of control. That tells us that the best approach is a blend — one that brings together the power of personal tracking with the trust of medical expertise.

In the end, this study is a reminder that **behind every survey response is a real person**, trying to make sense of what their body is telling them. They don't just want a diagnosis — they want clarity. They don't just want pills — they want to feel better in a way that makes sense to them.

If we can meet people where they are — with the right tools, honest communication, and genuine support — we can help them not just treat their pain, but feel more confident, more informed, and more in control of their health.

And that, ultimately, is what truly patient-centered care should look like.

REFERENCES

1. Longstreth GF, Thompson WG, Chey WD, Houghton LA, Mearin F, Spiller RC. (2006). *Functional bowel disorders*. *Gastroenterology*, 130(5), 1480–1491. <https://doi.org/10.1053/j.gastro.2005.11.061>
2. Mayer EA. (2000). *The neurobiology of stress and gastrointestinal disease*. *Gut*, 47(6), 861–869. <https://doi.org/10.1136/gut.47.6.861>
3. World Gastroenterology Organisation. (2015). *Global Guidelines: Irritable Bowel Syndrome (IBS)*. Retrieved from <https://www.worldgastroenterology.org/guidelines>
4. National Institutes of Health (NIH). (2022). *Understanding Functional Abdominal Pain*. Retrieved from <https://www.niddk.nih.gov>
5. Cleveland Clinic. (2023). *Abdominal Pain: Causes, Types & Treatment*. Retrieved from <https://my.clevelandclinic.org/health/symptoms/15845-abdominal-pain>
6. Mayo Clinic. (2023). *Self-care for Abdominal Discomfort*. Retrieved from <https://www.mayoclinic.org>
7. Kumar, D., Saini, P., & Sharma, V. (2019). *Mobile Health Apps in Symptom Monitoring and Digital Engagement: A Review of Benefits and Challenges*. *Journal of Health Informatics in Developing Countries*, 13(2), 65–72.
8. Ersöz, F., & Boyacıoğlu, S. (2021). *Psychosomatic aspects of abdominal pain: The overlooked dimension*. *World Journal of Gastroenterology*, 27(36), 6141–6154. <https://doi.org/10.3748/wjg.v27.i36.6141>
9. American College of Gastroenterology. (2021). *Patient Guidelines for Managing Recurrent Abdominal Pain*. Retrieved from <https://gi.org/guidelines>
10. WHO Digital Health Report. (2021). *Global Strategy on Digital Health 2020–2025*. World Health Organization. Retrieved from <https://www.who.int/docs/default-source/documents/digital-health>

