

# The understanding and management of stroke risk in patients with atrial fibrillation in northern British Columbia

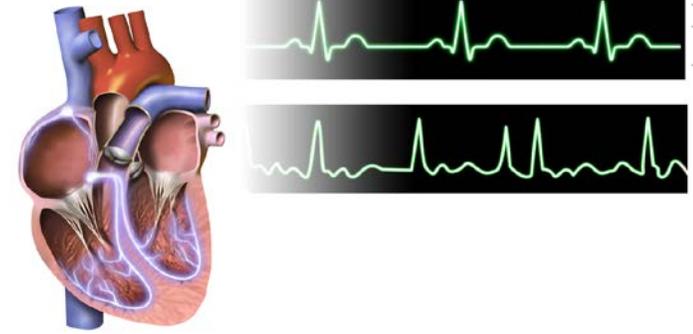
By: Alexandra Marleau

Email: [Alexandra.Marleau@northernhealth.ca](mailto:Alexandra.Marleau@northernhealth.ca)

# Overview

- This study aimed to understand peoples perceptions of stroke risk and their decision-making regarding stroke risk management.
- This study utilized a qualitative descriptive approach.
- Twelve participants diagnosed with AF and living in northern British Columbian communities were recruited and interviewed.
- The questions were in-depth, open-ended questions investigating the participants' understanding of anticoagulation to prevent stroke, which is the most effective strategy and best standard of care for prevention.

# What is atrial fibrillation (AF)?



- Atrial fibrillation (AF) is a cardiac arrhythmia characterized by rapid, irregular heartbeats, occurring when the electrical pathway originating from the sinoatrial node in the atria become uncoordinated<sup>4,5</sup>.
- AF is the most common cardiac arrhythmia globally, affecting one percent of the world's population.
- AF can present with debilitating symptoms or none at all, which can create a difficult initial presentation for diagnosis.
- AF can originate from primary and secondary causes<sup>5,8,15</sup>.

# Background

- Atrial fibrillation is a world-wide epidemic<sup>1,10</sup>.
- AF presents an increased risk of stroke at nearly five-fold<sup>7,12</sup>.
- Fifteen percent to twenty five percent of ischemic strokes are due to AF<sup>9</sup>.
- Stroke costs the Canadian health care system \$3.6 billion each year in hospital costs, lost wages and productivity<sup>10</sup>.
- Few studies have been conducted to assess the understanding and management of stroke risk of people living in northern British Columbia living with AF.
- There are few studies that have been conducted from the patient's point of view.
- This research addresses the gap of a lack of research, and gives patients a voice in how we as healthcare providers can provide better initiatives to prevent stroke.

# Background

- **Stroke risk management with pharmacological agents**
  - Aspirin is no longer considered an agent for stroke prevention
  - Warfarin
  - Direct oral anticoagulants (DOACs)<sup>1,6</sup>.
- **Stroke risk management with invasive procedures**
  - Catheter ablation
  - Surgical ablation
  - Chemical and/or electrical cardioversion
- **Each treatment holds a risk and benefit to the patient**

# Research Questions

The study was guided by the following research question and sub-questions: **How do patients in rural northern British Columbia with AF understand and manage their risk of stroke?**

- What are the experiences of patients living with AF and risk of ischemic strokes secondary to AF in rural and remote areas of Northern British Columbia?
- What factors influence patients' decision making around stroke prevention?

# Methods

## **Research Design**

- Highlights the importance of understanding the patients' experience, and builds on that to improve delivery and choice of treatment<sup>3</sup>.

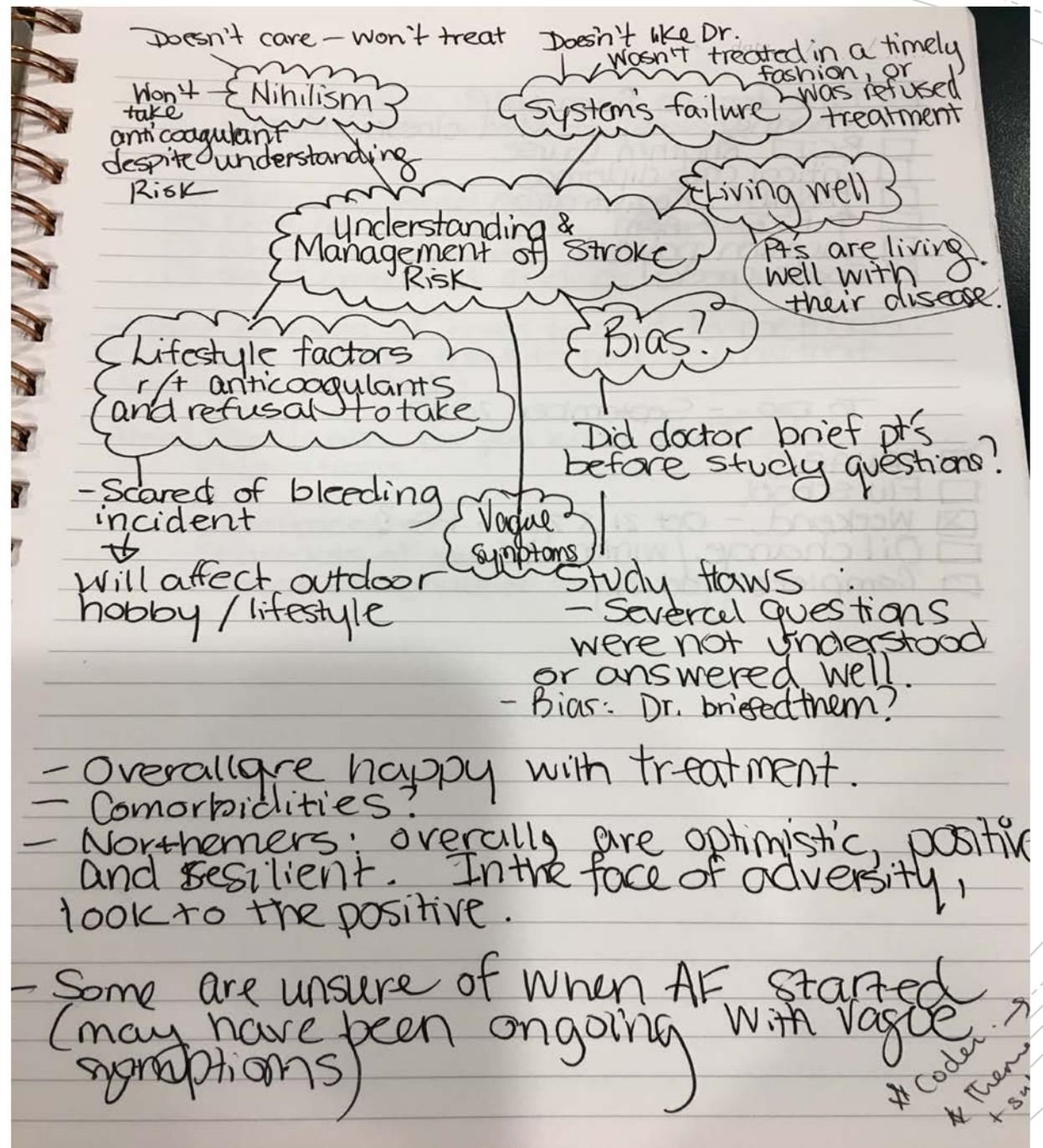
## **Methodology**

- A qualitative descriptive design was chosen for this study to assist in understanding the patients' experience<sup>14,17</sup>.

## **Sampling and Recruitment**

- Sample size: twelve participants
- Recruitment: from two medical clinics in two different northern British Columbian communities

# Conceptual Diagram



# Findings Overview

## Three key themes emerged from the data

1. Living with AF
2. Stroke prevention
3. Navigation

# Theme One: Living with AF

## **AF decreased quality of life due to negative symptoms, medication side effects, and lifestyle changes**

### **Symptoms**

- Symptoms ranged from participants who reported experiencing no symptoms or mild in nature to severe symptoms that affected daily life
- Heart palpitations were the most commonly reported symptoms

### **Medication Side Effects**

- Negative side effects included fatigue, bruising and bleeding and allergies and impaired exercise tolerance
- Medications for AF generally include rate and rhythm control medications, anticoagulants, aspirin, and antihypertensive medications

### **Lifestyle changes**

- Avoided activities that may exacerbate symptoms
- Many participants who previously enjoyed outdoor activities stopped out of fear

# Theme Two: Stroke Prevention

## **Stroke Prevention**

- Decision-making around the use of oral anticoagulants.
- Maintaining lifestyle in deciding to take anticoagulation.

## **Understanding AF and stroke risk**

- Most participants had some knowledge of the relationship between AF and stroke risk.
- In response to the risks of taking warfarin, some participants chose to take aspirin instead.
- A small minority had little or no knowledge of their stroke risk.

## **The emotions behind AF**

- Participants reported a number of emotions in regards to their diagnosis of AF and their corresponding stroke risk including fear and anger.

## Theme Three: Navigation

### **Ease of Access**

- Most participants felt they were able to access the health care that they needed, even from smaller, rural areas.
- One participant (05) felt that northern residents received preferential treatment in tertiary centers.

### **Creativity in the Face of Adversity**

- One participant reported that he was able to find a hospital that was able to perform an echocardiogram a year sooner than his home city, and would get his blood work completed at a private laboratory.
- Participants had family members and advocates to help them navigate the healthcare system during hospital admission.

### **System Failure**

- One participant reported that she was denied an ablation early in her diagnosis of AF.
- One participant decided to choose his own management of AF, deciding exclusively on seeking electrical cardioversion when he felt himself convert to AF. He refused to take any medications, including anticoagulation.

## Discussion

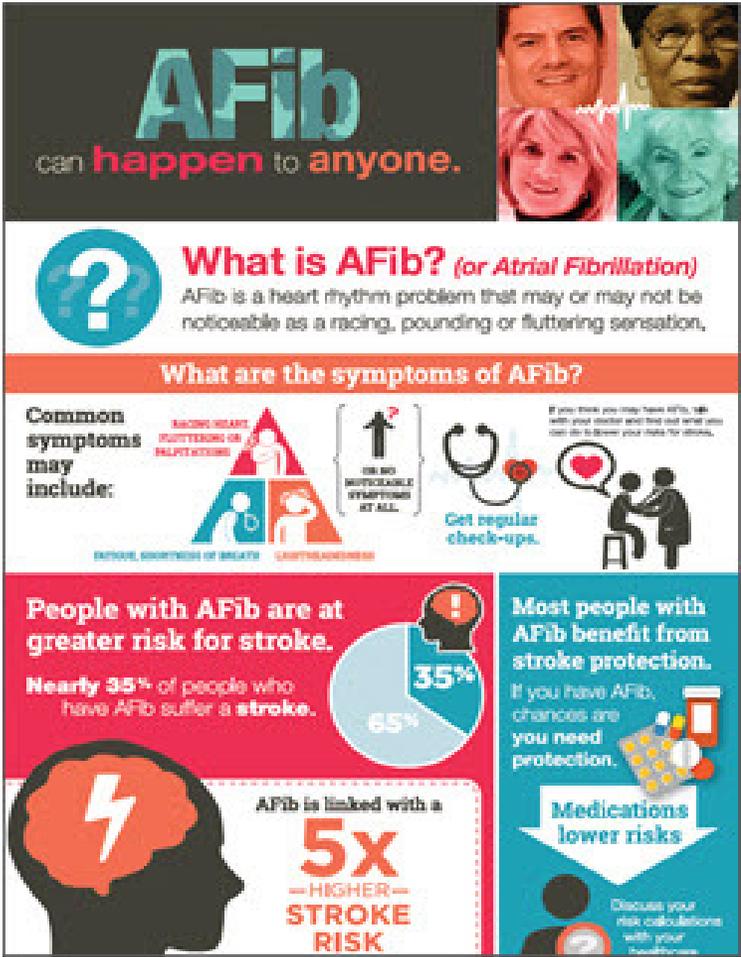
### **How do patients in rural northern British Columbia with AF understand and manage their risk of stroke?**

- Knowledge of AF treatment and stroke prevention was generally poor.
- Symptom burden decreased quality of life; strategies for managing symptom burden include weight loss and increasing activity in a sedentary lifestyle.
- Discussing the importance of adherence to medication regime (including oral anticoagulants) through education initiatives.
- Most participants chose to take anticoagulation based on how it would affect their lifestyle.
- Accessing healthcare in a timely manner.
- Geographical distance and the necessity of leaving home to access specialty health care services.
- Lack of services in northern British Columbian communities.
- There was a lack of comparable studies in the literature, limiting how I could compare and contrast my findings with other studies.

## Recommendations and implications for practice

- Further research on the topic of AF and stroke management in rural and urban communities is needed to allow comparison.
- More data on the exploration of patients experiencing adverse events related to AF.
- More research exploring the decision making around prescribing or not prescribing oral anticoagulants by healthcare providers.
- Addressing knowledge deficits to raise awareness of AF and the link to stroke (widespread education campaign) \*
- Implementing specific educational interventions that target oral anticoagulants.
- In the future, I would like to lead an educational campaign in my hometown to promote education regarding AF and the link to stroke for community members and healthcare providers.

# Afib awareness infographic poster



**AFib**  
can **happen** to **anyone.**

**What is AFib? (or Atrial Fibrillation)**  
AFib is a heart rhythm problem that may or may not be noticeable as a racing, pounding or fluttering sensation.

**What are the symptoms of AFib?**

**Common symptoms may include:**

- IRREGULAR, RHYTHMLESS OR RACING HEART
- FLUTTERING OR PALPITATIONS
- NO NOTICEABLE SYMPTOMS AT ALL

**Get regular check-ups.**

**People with AFib are at greater risk for stroke.**

**Nearly 35% of people who have AFib suffer a stroke.**

**AFib is linked with a 5x HIGHER STROKE RISK**

**Most people with AFib benefit from stroke protection.**

**Medications lower risks**

Discuss your risk calculations with your healthcare provider.

A Fib Awareness Infographic Poster.

# Limitations

- Failure to recruit participants from one of the smaller northern British Columbian communities that were initially targeted.
- Using a convenience-criterion sample may not be representative of the general population.
- Limited generalizability due to the choice of using a qualitative methodology.

# Conclusions

- AF is the most common cardiac arrhythmia in the world, affecting one percent of the population<sup>1</sup>.
- By the year 2050, this number will increase by 2.5 fold with fifty percent of sufferers aged eighty or older<sup>16</sup>.
- AF increases stroke risk by five hundred percent<sup>10</sup>.
- Treatment of patients with AF is complex.
- Patients with AF should be fully informed of the increased risk for stroke and offered anticoagulation if they qualify.
- The findings of the study determined that people with AF would benefit from better education about their disease and preventative measures against stroke.
- Pulse checks should be a routine part of physical examinations in clinics.
- Support and use targeted education programs and initiatives to highlight the importance of oral anticoagulation, as well as improve patient knowledge and health outcomes<sup>4</sup>.

**Thank you!**

- **Thank you for allowing me this opportunity to present my research today!**
- **A special thank you to my academic supervisor and supervisory committee: Dr. Davina Banner, Dr. Lela Zimmer and Dr. Ken Prkachin. Thank you for your guidance throughout this research project! Thank you also to Dr. Linda O'Neill for your role as external examiner in my thesis defense!**
- **To the physicians and medical office staff for assisting me with recruitment.**
- **To the participants for agreeing to take part in this study and for sharing their valuable experiences.**