

Sublingual GTN Advice Card

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On behalf of the Cardiac
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Introduction

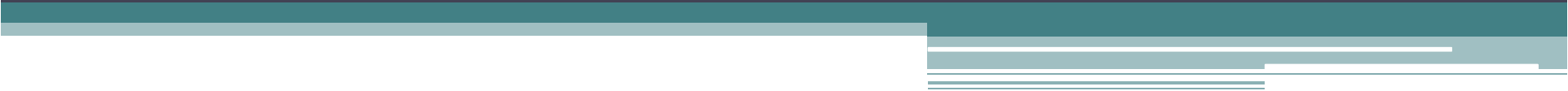
- Coronary heart disease (CHD) is the UK's biggest killer with an estimated 2.6 million people living with CHD.
- Sublingual Glyceryl trinitrate (GTN) is often prescribed to alleviate anginal chest pain; a symptom which is most commonly experienced by patients with CHD.
- Various studies have shown that not all patients with angina are prescribed GTN and many do not seem to know how to use it.
 - This was shown to be associated with poor quality of life among patients with angina, some unnecessary acute admissions and delays in calling 999 during an episode of Acute Coronary Syndrome.
- The National Institute for Health and Care Excellence (NICE) emphasised the importance of ensuring that patients with angina are prescribed GTN and provided with full advice on how to use it to prevent and alleviate episodes of chest.

Objectives of the Project

- Phase 1 - exploratory phase
 - Assess if patients who were admitted with chest pain knew / used their GTN correctly when chest pain was experienced.
 - Opinion of patients of advice provided and leaflets
- Phase 2 – develop a suitable leaflet with patients.
- Phase 3 – evaluate the GTN card (version 1)
- Phase 4 – National picture
 - What advice and leaflets are used nationally about GTN
- Phase 5 – develop a national GTN card (version 2)

Phase 1

Sublingual GTN possession, knowledge and use among patients admitted with chest pain to acute cardiology

A series of horizontal bars in teal and light blue colors, stacked and offset to the right, creating a modern, layered effect at the bottom of the slide.

Results

- 35 patients were assessed, their average age was 58 years (range: 34-76) and their first diagnosis of symptomatic CHD ranged from 1985 – 2011.
- All patients had a previous admission to our cardiology department and were all prescribed GTN.
- In total 32 (91%) recalled that they had been given advice on their GTN.
 - Out of the 32 that had received advice, 27 (84%) remembered having verbal advice and 2 (6%) remembered receiving both written and verbal advice.
 - Patients did not feel that the GTN written information was readily accessible.
- 12 (34%) patients reported that they did not use their GTN when they had experienced chest pain for various reasons, included lack of understanding of how to use.
- Only 6 (17%) patients showed full knowledge of how to use GTN (see figure 1).
 - 14 (40%) did not know they could repeat the dose either 2 or 3 times with 5 minute intervals and 29 (83%) were not aware that they could use GTN for prophylaxis.

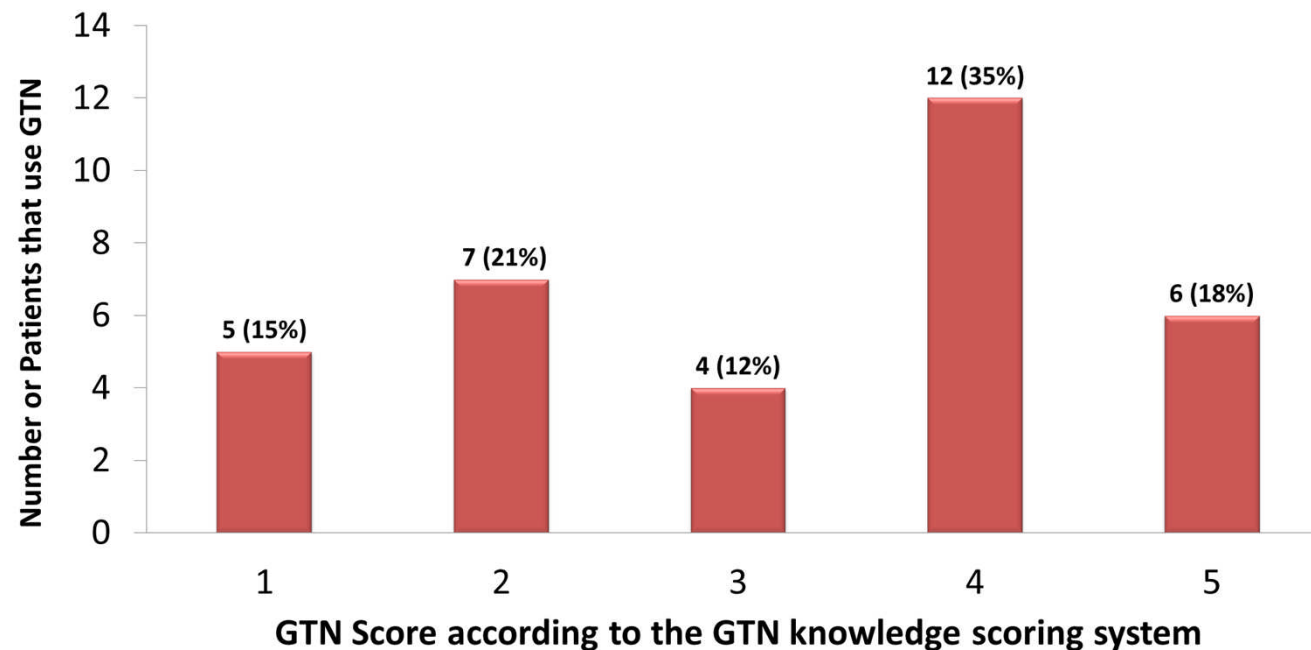


Figure 1. Level of patients knowledge about how and when to use GTN scored according to the GTN knowledge scoring system. (n = 34)

Criteria used to assess knowledge about using GTN

1. Know to use GTN for chest pain
2. Know that they can use 1-2 doses each time sublingually
3. Know that they can repeat the dose several times with 5 minutes intervals
4. Know to Call 999 if chest pain is not alleviated within 10-15 minutes
5. Know that GTN can be used before exercise

Khatib et. al. 2013

GTN knowledge scoring system.

Each criterion was allocated 1 point. Maximum score = 5 (full knowledge), Minimum score = 0 (no knowledge)

Conclusions

- While the findings show that patients with established symptomatic CHD were all prescribed GTN and provided advice on how to use it, their knowledge and ability to use GTN were not satisfactory.
- Despite supplying our patients a wide range of written information about GTN, the majority do not seem to remember reading that information and cited that they did not think written information was readily accessible.
- They did not find the manufacturer's patient information leaflet useful.
- Written advice should support verbal advice and not be given on its own without emphasis.

Phase 2

The Development of GTN advice Card in
Collaboration with Patients with CHD

Background

- Phase 1 of this project and other published studies show that GTN is not used correctly by patients who have CHD and recommend reinforcing correct GTN use.
- Despite providing our CHD patients with various booklets and advice on how to use their GTN, many of them still could not remember how to use GTN correctly.
- The cardiac rehabilitation team at LTHT decided to develop a GTN advice card in collaboration with patients who have CHD to help them recall how to use GTN at the point of need.

Results


- 21 patients and 10 healthcare professionals were invited to participate in the development phase.
- Of the 21 patients involved in the project, 15 (71%) favoured the idea and 1(5%) did not without giving a reason. The remainder did not comment or suggest an alternative.
- Five patients said that information about GTN use should be readily available at the point of use.
- The recommendations made by patients and healthcare professionals are listed in Table 1.
- A new GTN advice card was developed including most relevant and practical information for use at the point of GTN use.
- Another 20 patients were invited to evaluate the final draft. They thought that all the information included was necessary and that it would be a useful and practical reminder.
- One patient said that GTN expiry date should be checked before use.
- A double sided A7 size card was designed and printed in line with the recommendations.
[See figure 1.](#)

Table 1 - Recommendations of What Should be on the GTN Card
(Ranked according to frequency mentioned)

Patients (n=21)	Healthcare Professionals (n=10)
The 15 Minute rule (5)*	The 15 Minute rule(10)
Carry GTN at all times(5)	Instructions dialling 999(10)
Keep more than one GTN bottle(4)	Make sure door unlocked(6)
Do not hesitate to use it(4)	Carry GTN at all times(5)
Next of kin contact number(3)	Sit down & expect to feel lightheaded(4)
Instructions dialling 999(2)	If mouth dry, sip water to help dissolve tablet(2)
Sit down & expect to feel lightheaded(2)	Check expiry date(2)
Not to swallow(2)	Can spray on tongue(1)
Make sure door unlocked(2)	Never use GTN with Viagra(1)

**The number in brackets represents the number of times this recommendation was mentioned by patients / healthcare professionals*

Figure 1 - The final GTN card

<p>GTN CARD The Leeds Teaching Hospitals </p> <p>15 Minute Rule</p> <p>If you experience chest pain (angina), chest ache or chest discomfort:</p> <ul style="list-style-type: none">• Stop what you are doing, sit down and rest.• If pain persists place 1 GTN tablet or 1-2 sprays under your tongue and wait 5 minutes.• If pain is still present place a 2nd tablet or 1-2 sprays under your tongue and wait 5 minutes.• If pain is still present place a 3rd tablet or 1-2 sprays under your tongue and wait 5 minutes.• If pain is still present: <p>RING 999 AND UNLOCK DOOR</p>	<p>Tips for using GTN</p> <ul style="list-style-type: none">• Carry your GTN at all times and don't hesitate to use it.• Keep more than one GTN bottle e.g. at work, bag.• Sit down before using, as you may feel lightheaded.• Do not inhale the spray or swallow the tablet.• You can spray GTN on your tongue.• If the spray has not been used for a long time, check its expiry date. Spray it in the air a few times before using it.• GTN tablets expire 8 weeks after opening the bottle. Write the date of opening on the bottle.• If your mouth is dry, a sip of water helps the tablet dissolve better. <p>Next of kin contact:.....</p>
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Conclusions

- A new GTN advice card which is readily accessible was developed in collaboration with patients to improve GTN use when needed.
- Involving patients in the development of patient information is invaluable. It enables the design and provision of information which is tailored to patients' needs and helps healthcare professionals better understand the practical issues related to medicines use.
- Healthcare professionals should ensure that patients are involved more in developing patient information.

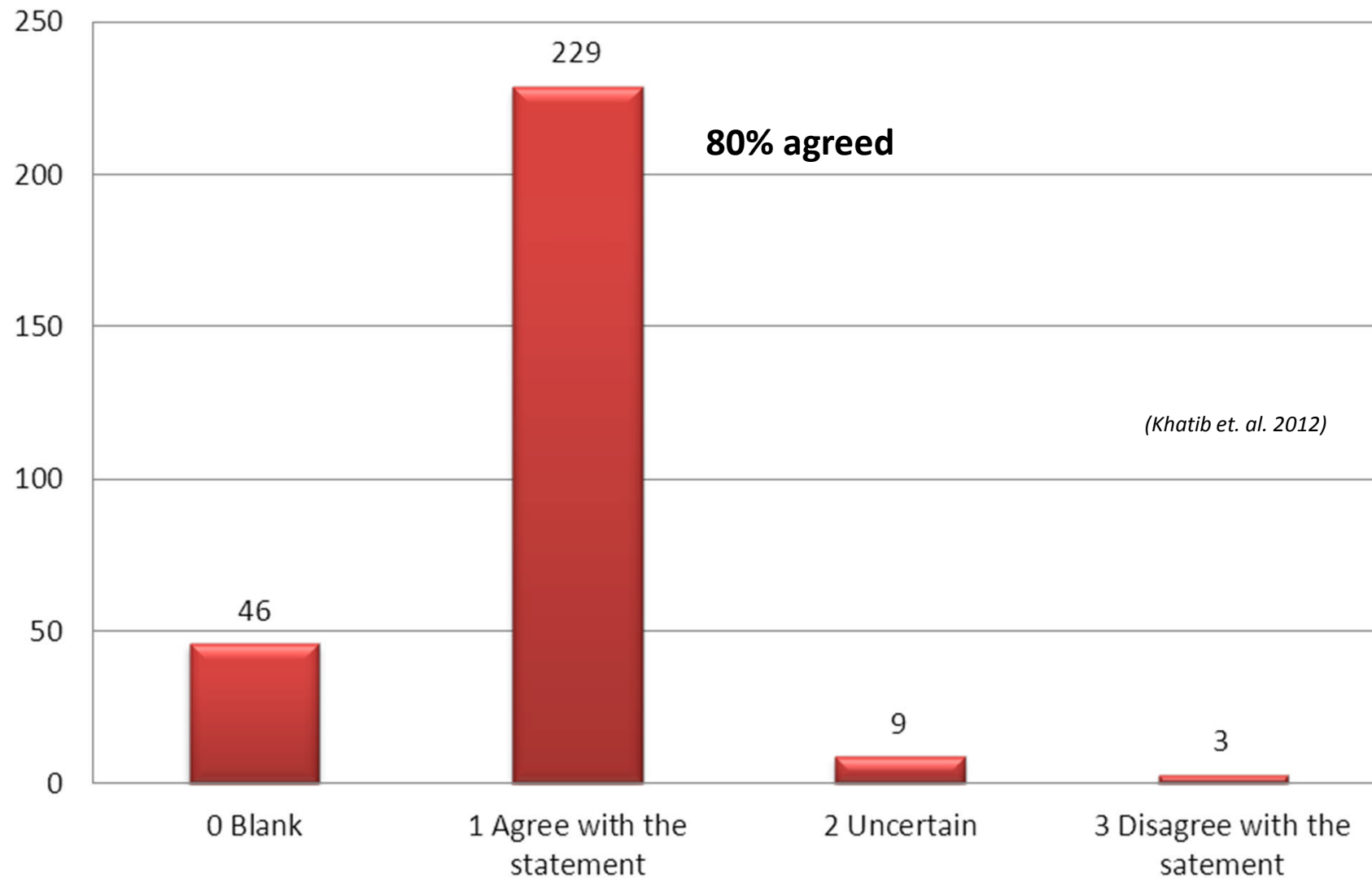
Phase 3 –

Evaluation of the new GTN card

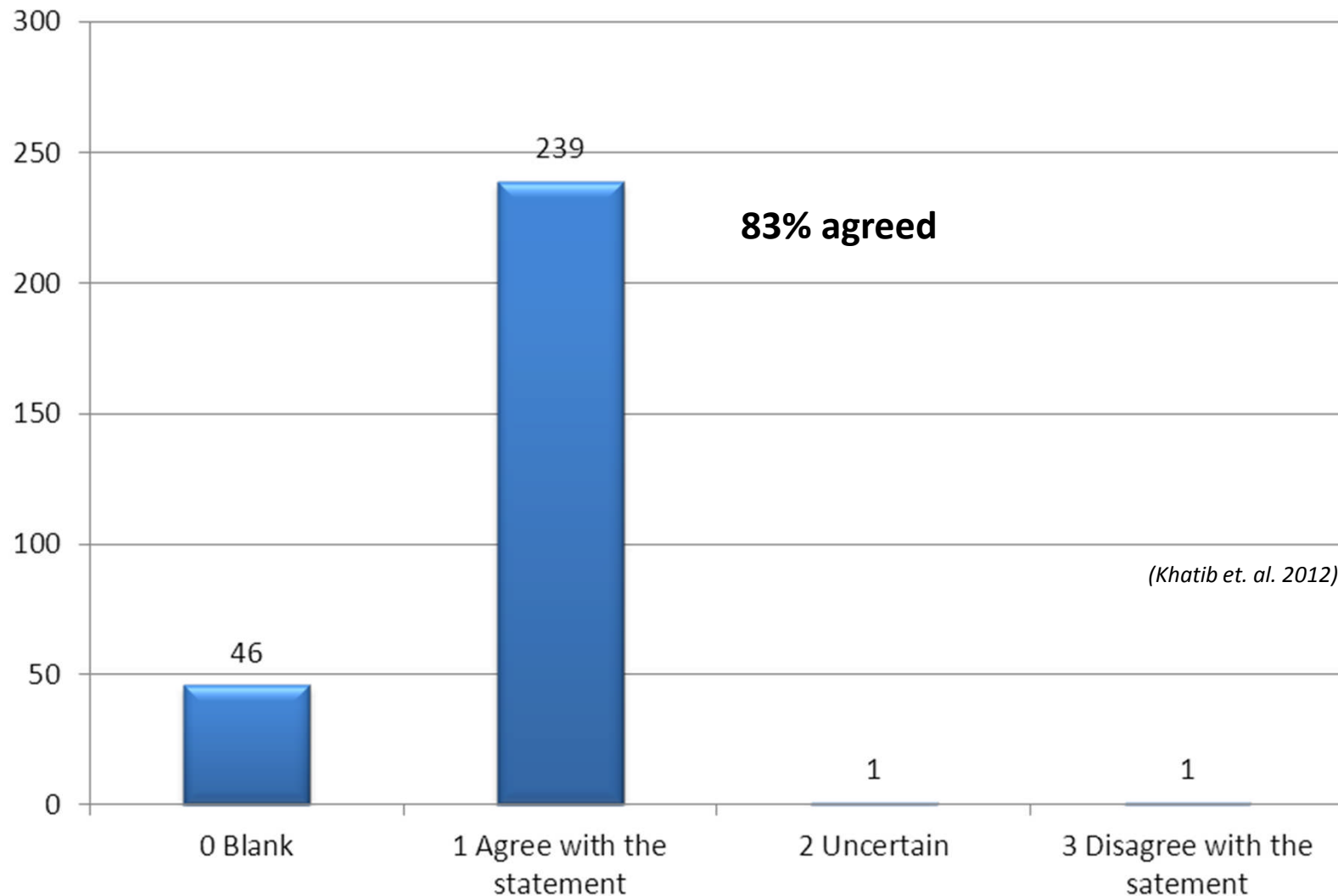
User-testing of the new card

- We supplied 430 patients with established CHD the new GTN card and asked them to give their opinion of the card.
- 288 responded (67%).
- We asked them:
 - If the card useful
 - If it was easy to understand the information provided on the card
 - If the idea of a small card that can be carried by those who use GTN is a good one
 - Any other comments

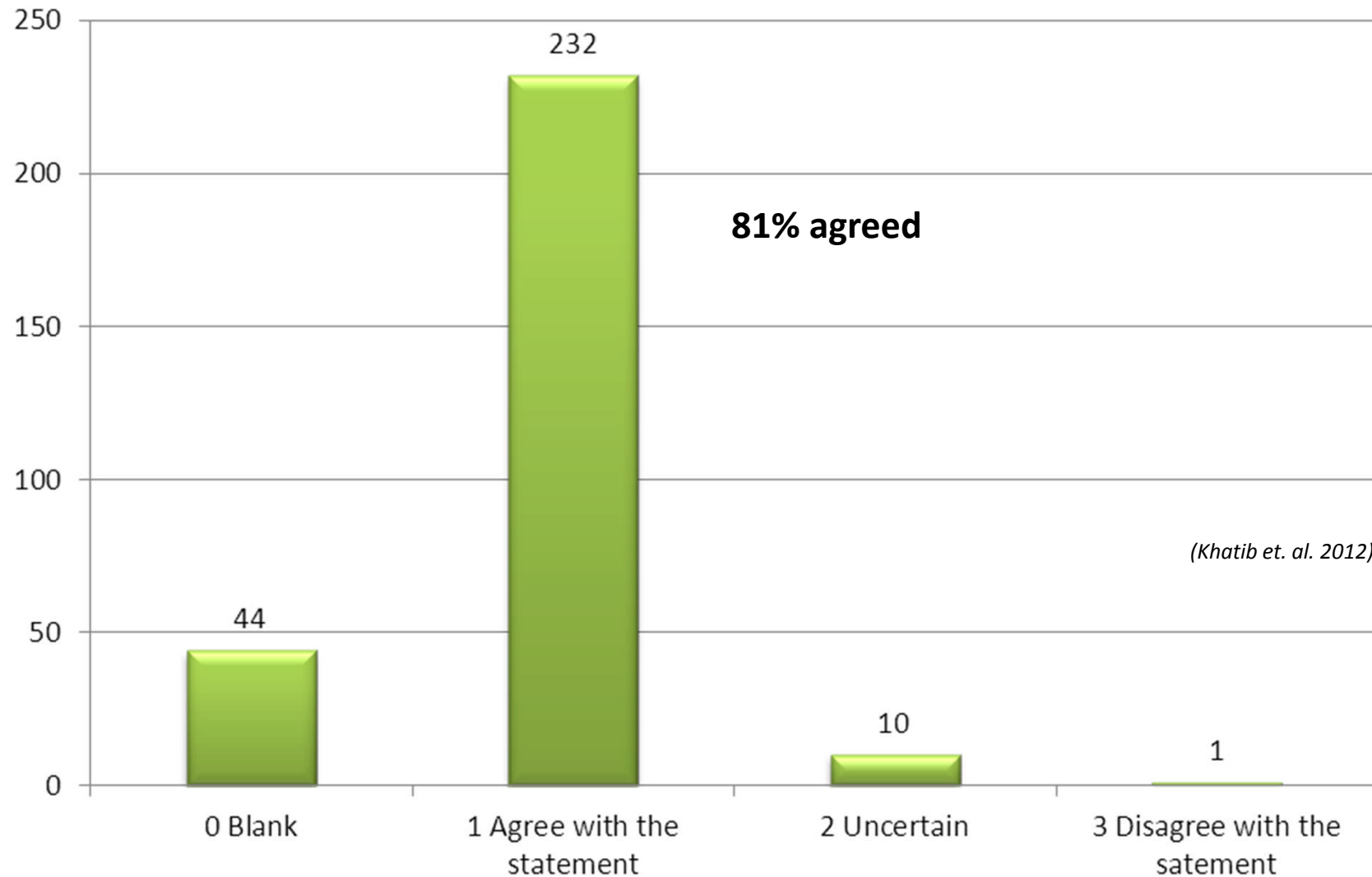
The card was useful



It was easy to understand the information provided on the card



The idea of a small card that can be carried by those who use GTN is a good one



Any other comments

- “Explained more about how and when to use my spray”
- **“The 15 minute rule was new to me, and could be quite useful”**
- “Better than info on spray and information insert”
- **“Clearly set out. Good idea for patient and carers”**
- “Although i know how to use my GTN spray it was useful to have my memory refreshed”
- **“Having a card that will fit in my pocket, handy size, makes it easy to carry with me”**
- “Though I was given instructions how to use GTN spray at rehab classes I attended after my heart attack it is very useful to have a reminder and in a format that I can carry around with me.”

Suggestions to improve the card

- “If the card could be made out of plastic to keep it clean”
- “Card needs to be reduced to a standard credit card size to slip in a purse or wallet”
- “Give card to all patients when prescribed GTN”
- “Annual re-issue via GP pharmacy. Perhaps including manufacturer.”
- “I don’t think i would wait 15 minutes before ringing 999 if the angina was severe”

(Khatib et. al. 2012)

Phase 4

National Survey of Advice Given to Patients, Current Practice – Need for a national GTN Card

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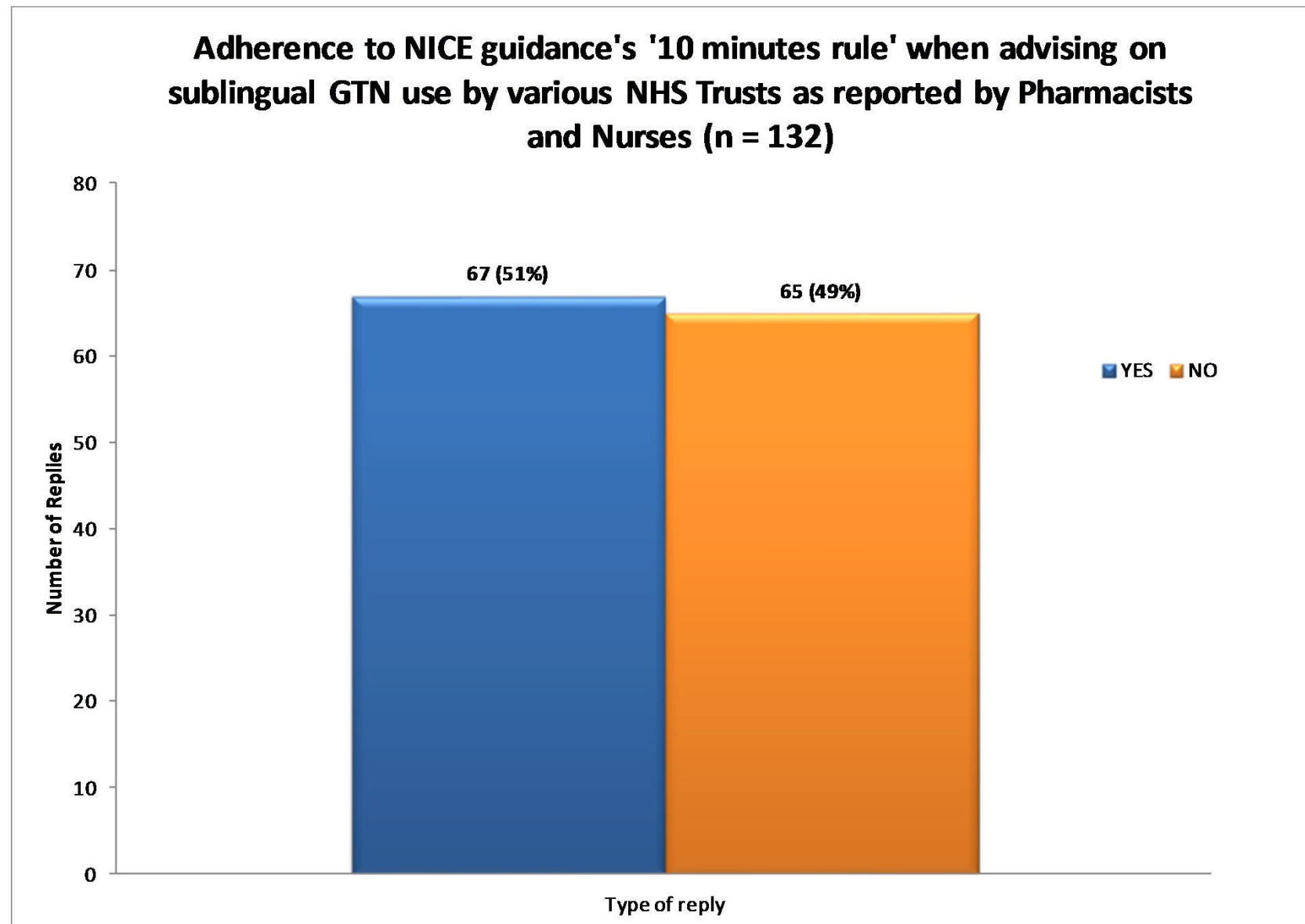
Introduction

- In its 2011 Stable Angina Guidelines, NICE emphasised the importance of advising people with stable angina on how to use their GTN.
- NICE recommends a 10minutes rule before calling 999 :
Use one dose of GTN, repeat the dose after 5 minutes, if the pain has not gone 5 minutes after taking a second dose call an ambulance.
- The aim of the survey was to find current practice in the UK regarding the advice given by cardiology teams about sublingual GTN and interest in developing a national GTN card.
- We designed and administered an electronic survey targeting cardiology pharmacists and specialist cardiac rehab nurses.
- The survey was advertised on healthcare professional forums and emailing lists by professional bodies e.g. RPS and Cardiac Rehab Nurses emailing list.
- 154 healthcare professionals completed the survey.
 - **80% of the respondents identified that they were part of a cardiology team.**
 - **132 different NHS acute and primary Trusts across the country were represented.**
 - **We excluded answers repeated from the same Trust (if not contradictory)**

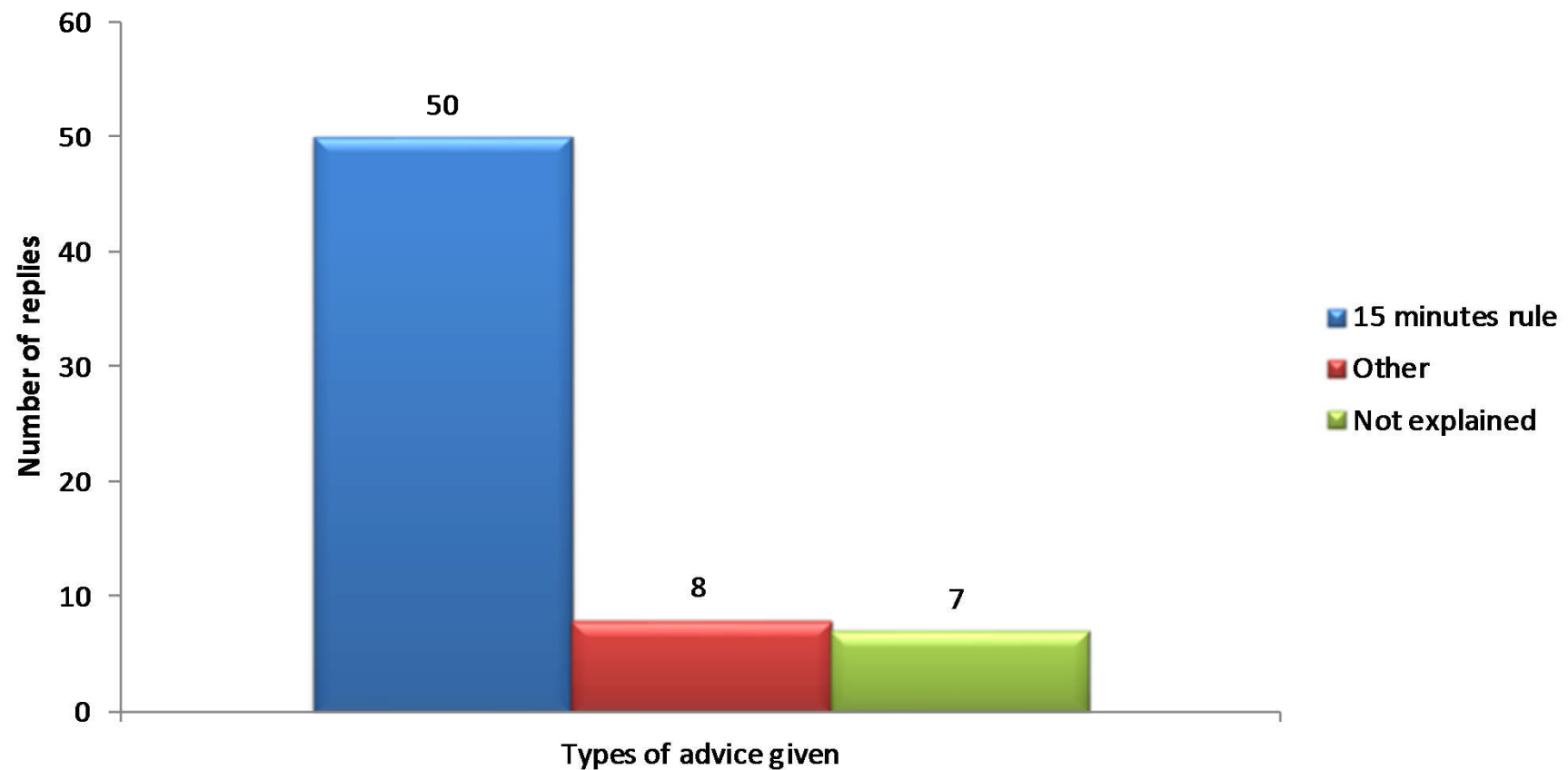
Distribution of the Sample

- North East – 8 Trusts
- North West - 14 Trusts
- South (E, C, W) – 39 Trusts
- London - 12 Trusts
- Yorkshire & Humber – 15 Trusts
- Midlands – 9 Trusts
- Wales - 3 Trusts
- Scotland – 6 Trusts
- Not specified – 26 Trusts

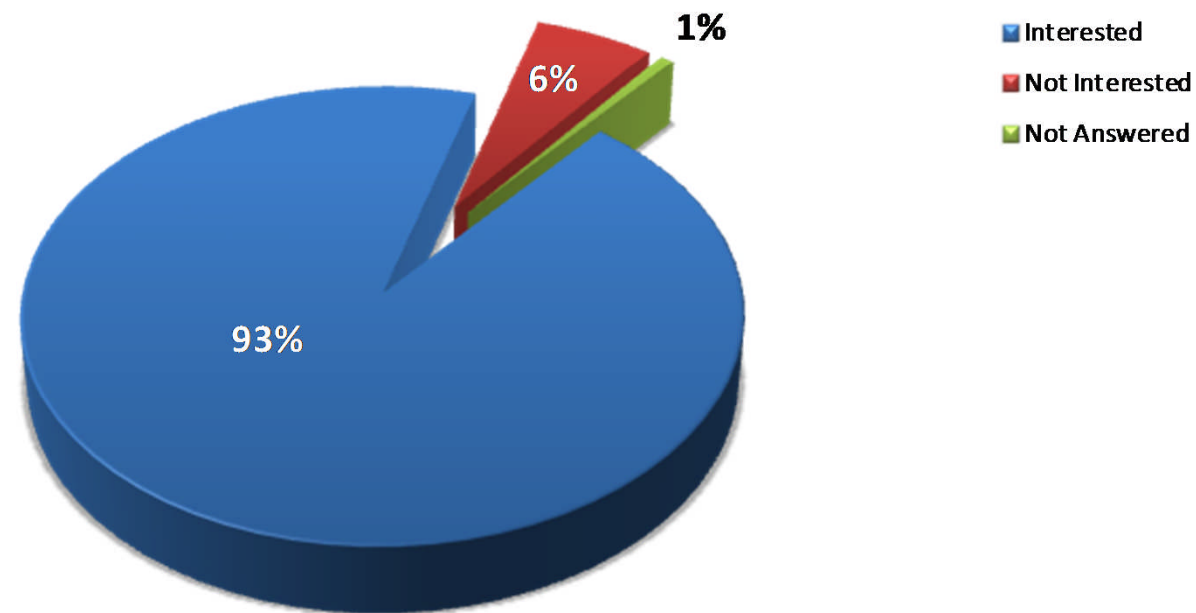




Alternative advice given on use of sublingual GTN by various NHS Trusts across the country (Non- NICE)



Would you be interested in a nationally approved sublingual GTN information leaflet / card to standardise the advice we give to patients about sublingual GTN?



Conclusions

- There is no consistent advice given nationally. Some follow the 10min rule and others follow 15min rule.
 - Many expressed interest to change in line with NICE recommendation
 - LTHT trust will change to 10 minutes rule after consulting with cardiology team.
- There is clear interest in a national GTN card.
 - Develop a national GTN card to standardise the advice given to all patients nationally.
 - Collaborate with national healthcare professional bodies.
 - UK Clinical Pharmacists Association (secondary care pharmacists)
 - Contacted and happy to endorse the card.
 - NPA – national pharmacists association (primary care pharmacists).
 - Cardiac Rehab network and local cardiac networks.
 - Seek funding to print and distribute card nationally

Phase 5

Develop version 2 of GTN card for national use

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Development of a national GTN card

- Take on board all feedback from phase 3 and 4
- Develop version 2 of GTN card
- Suitable for national use
- Consult with national bodies
- Apply for funding to print and distribute
- Estimated cost from print unit at LTHT

Draft of Version 2 (approved by LTHT)

Front

GTN Spray Card

Trust Logo

10 Minutes rule

If you experience chest pain (angina), chest ache or chest discomfort

- Stop what you are doing, **sit down** and rest.
- If pain persists, use 1 spray under your tongue and wait 5min.
- If pain is still present, use another spray and wait 5min.
- If pain is still present, **Ring 999 and Unlock door**

If your pain gets severe at any stage, or if you feel unwell (e.g. dizzy, short of breath, sweaty) call 999 immediately

Back

Tips for using GTN

- GTN should be sprayed under or on your tongue.
- Sit down before using, as you may feel lightheaded.
- Carry your GTN at all times and don't hesitate to use it.
- Keep several GTN bottles e.g. at work, at home, in bag.
- Your doctor may advise using 2 sprays per dose.
- If the spray was not used for long time – spray it in the air a few times before using it. (Check expiry date)

Next of kin contact:

GTN = glyceryl trinitrate or nitrate spray

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- Credit card size as requested by patients
- Laminated as requested by patients
- Two cards – **one for spray (above)** and **one for tablets**
- Make available to all patients on GTN in all settings
 - Secondary and Primary care
 - Community Pharmacies etc.

Outcome

- New version 2 was developed.
- Approved by LTHT drug and therapeutic committee for use in the Trust.
- Favourable opinion from GPs on LTHT D&T committee and others.
- Favourable opinion from national bodies (UKCPA + cardiac rehab).
- LTHT print unit will be happy to supply nationally.
- Check if NICE would endorse new card.

Next evaluation

- National feedback on GTN card
 - Patients & healthcare professionals
- Assessment of pre and post introduction of the new approach.
 - Patient satisfaction and understanding
 - Average symptoms to 999 call time
 - Unnecessary (angina) admission rates