WINSTON CHURCHILL MEMORIAL TRUST

‘Determining whether faith-based health strategies improve bowel cancer outcomes among UK Muslims’

(Saudi Arabia, US)

Fareed Iqbal MRCS (Eng), MBChB, BMedSc (Hons)
Surgical Registrar, North West Deanery
Winston Churchill Travelling Fellow 2014

Contents

Background

Defining the disease

Over 40,000 people were diagnosed with colorectal cancer (CRC) in 2010; making it the third most common cancer in the UK.[1] With approximately 16,000 deaths in 2008, it is the second commonest cause of cancer-related death in England with an annual incidence of 1 in 16 for men and 1 in 20 for women; these rates are substantially higher in socioeconomically deprived groups.[2] CRC prognosis (likelihood of survival) is hugely dependent upon the stage of disease and the extent of spread when symptoms begin or when the diagnosis is finally confirmed. At one year 90% of patients with early stage cancers (called Dukes' A) will be alive and disease free; but, only 7% will be alive with advanced (Dukes D) cancers. Unfortunately, only 13% of patients present with early stage disease making survival rates in England far poorer than any other European country.[3] Furthermore, 20% of patients in the UK diagnosed with colorectal cancer present as emergencies and as a result have higher complications and lower one-year survival compared to those who undergo elective surgery due to earlier presentation.[4]

The National Awareness and Early Diagnosis Initiative on behalf of Cancer Research UK has assembled evidence to show that detecting early stage cancers improves survival rates.[5] This can be realised through increasing the awareness of CRC symptoms in a population leading to earlier help-seeking, and improving participation in bowel cancer screening initiatives. The NHS Bowel Cancer Screening programme (NHSBCSP) introduced in July 2006 offers faecal occult blood testing (FOBt) to people aged between 60-74 years every two years with abnormal results being followed up with a colonoscopy (endoscopic camera inserted via the anus which visualises the bowel) . Studies from the UK have shown that there is a tremendous paucity of knowledge about the risk factors and symptoms relating to CRC and a considerably low uptake of CRC screening.[7] Furthermore, a single flexible sigmoidoscopy from the age of 55 has been shown to improve colorectal cancer survival by over 40% compared to those who don't undergo this test; this is currently being rolled into the national screening initiative. Data concerning compliance, acceptability and uptake of this new screening modality is unknown.

Figure 1

Colorectal cancer, known commonly as bowel and rectal cancer affects the coloured areas. Most colorectal cancers occur in the sigmoid and rectum.

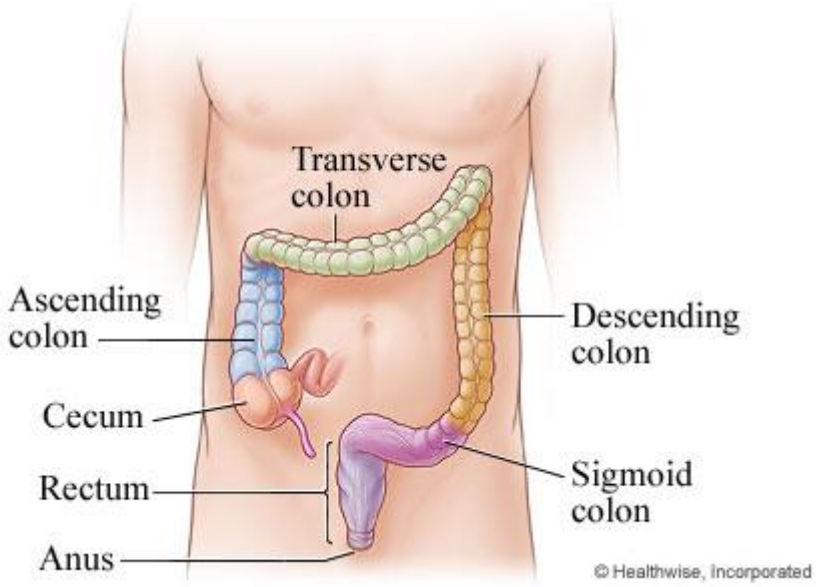
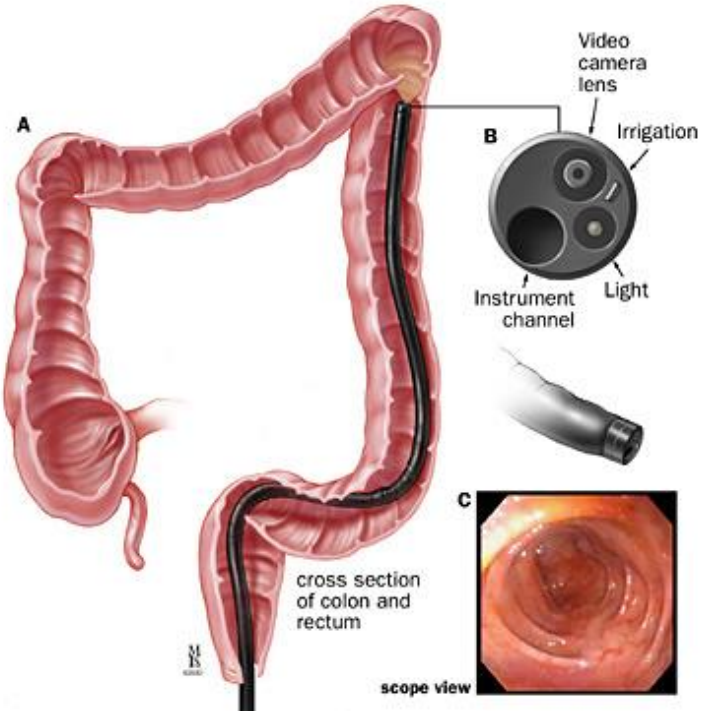


Figure 2

A flexible sigmoidoscopy is a procedure whereby the left side of the colon (the site where the majority of cancers are found) is directly visualised. It is done as a day procedure without the need for sedation. It can half the incidence of left-sided cancers if undergone as part of screening.



Defining the population

Almost a quarter of the world's population practices Islam; [6] which accounts for the most rapidly growing faith in many western societies.[7] Almost 10 million Muslims live in the United States and Great Britain and are recognised in each as one of the most socially deprived, with the poorest overall health profile of any faith group.[6, 8]

UK Muslims are a rapidly increasing population who are at higher risk for colorectal cancer

The total UK Muslim population has grown rapidly to 2.7 million people, comprising 4.8% of the UK population in the 2011 census; it is currently the second largest faith group in the UK after Christianity [ONS, 2013]. This heterogeneous mix of differing cultures encompasses people from the South Asian sub-continent including Pakistan (43%), Bangladesh (16%) and India (8%), and the Middle East (8%), with a further 6% of Black African heritage. UK Muslims have the highest reported rates of unemployment, the lowest level of education, are most likely to be living in council housing and most likely to report ill-health and disability compared to any other UK population. [ONS, 2013]. Social and economic position is directly linked to health, and has been shown to have a direct impact on colorectal cancer (CRC) incidence and outcomes, making UK Muslims a particularly vulnerable group.[9] British Muslims of South Asian ethnic origin with colorectal cancer were recently shown to be younger at age of presentation, more likely to require initial oncological (chemotherapy and radiotherapy) treatment and less likely to undergo surgery, suggesting more advanced disease at presentation.[10]

The incidence of CRC among UK Muslims remains unreported. Whilst international data suggest that Middle Eastern, South Asian and African ethnic origin groups have lower incidence compared to Caucasian groups,[11-13] there is emerging evidence to suggest that migrants from these lower-risk countries that move to higher-risk Western countries experience rapid increases in CRC incidence within the same generation, and CRC rates for second generation migrants can be double that of the first generation.[14] The main cause is due to the adoption of the indigenous diet by migrants when moving from high fibre consumption to a diet high in processed red meat and fat, suggesting that CRC incidence is likely to increase dramatically among the UK Muslim population. UK Muslims are also the least likely group to undertake CRC screening compared to other ethnic minority groups, even when accounting for socio-economic status and gender differences.[15]

Why target the faith dimension in these populations?

For many Muslims, religious identity is an essential defining characteristic. Islam has both religious and legal traditions that impact extensively on Muslim thinking and social customs.[16] During illness, Muslims turn to religion for coping strategies especially after diagnosis of colorectal malignancy.[17]

Islamic faith leaders [IFL] (often referred to as Imam, Mufti or Sheikh) have significant influences in their communities.[13] Most Muslims commonly adhere strictly to official Islamic law (S*hari'ah*) and will often turn to IFL before making important health decisions. Such advice is often delivered through a ***fatwā*** [a ruling on a point of Islamic Law given by a recognised authority]. The use of ***fatawās*** (plural) to guide healthcare decision making has become increasingly prevalent amongst Muslims living in Islamic nations as well as secular and Western societies.[14] In the US, this practice has been recognised

with recommendations being advocated for doctors to respect the need of Muslim patients' consultation with Islamic clerics and fatwā based permissions.[15]

Fatawās are non-binding legal opinions or advisory rulings given by a sole Sheikh or committee of Sheikhs based upon a particular interpretation of *Shar'iah* (Islamic law). The methodology of how *fatawās* are constructed and their validity in the Muslim population has been described in detail elsewhere.[14] Some *fatawā*s have opposed the use of modern medical therapies; in 1998, it was reported that the Egyptian Sheikh Mohammed Metwali Sharawi had called the practice of organ transplantation a 'blasphemy' and against God's will.[18] In 2011, when investigating western Muslims' views on organ donation, Sharif *et al*.[19] found that these were still heavily influenced by Quranic teachings and Islamic faith leaders, with advice from doctors and health organisations holding the least influence. Modern *fatwā* councils are made up of a committee of scholars usually from the same sect who often consult with impartial experts to verify facts before delivering fatwas; this has, in part, helped to avoid 'negative' and ill-informed *fatawās.*

It has been demonstrated that collaborations between healthcare providers and faith institutions to address public health concerns can lead to better health outcomes, as demonstrated in countries with pandemic HIV and AIDS.[22,23] In the UK, the Faith in Health partnership between NHS Tower Hamlets and The London Muslim Centre was created with an aim to increase the awareness in the community of the available health services, to educate IFL on common chronic diseases and to increase community participation in health screening. Since its conception this venture has led to improved health outcomes in relation to diseases including Tuberculosis, H1N1 influenza, and childhood obesity. [24]

It is therefore likely that understanding and responding to the religious sensitivities of Muslim patients with CRC symptoms may help overcome some of the barriers that prevent earlier presentation. This is also reflected in studies investigating the perceived barriers to CRC screening (faecal occult blood test and flexible sigmoidoscopy) amongst ethnic groups, which have all advocated the need for culturally sensitive screening strategies.[18]

Symptom appraisal and help-seeking among UK Muslims

Within individual cultural groups there are often specific and commonly held beliefs about cancer relating to aetiology and prognosis. There has been no research relating to the impact of these beliefs on symptom appraisal and help-seeking in this population. Awareness of cancer-related symptoms including CRC has recently been shown to be low across all ethnic groups in the UK compared to non-ethnic populations.[19] Furthermore, there is some evidence to suggest that emotions, particularly embarrassment, may be an important barrier to help-seeking; for instance, Muslim women with breast cancer described embarrassment having social, personal and religious components (personal communication) which influenced delays in help-seeking. Islamic scripture endorses devout Muslim women to be modest, and this may inhibit presentation to general practice with intimate symptoms, particularly to doctors of the opposite sex.

Colorectal cancer screening uptake among British Muslims

Muslims are the least likely group to uptake colorectal cancer screening compared to other ethnic minority groups in the UK.[15] This trend has been mirrored internationally where in a recent multi-centre study across 14 countries in the Asia-pacific, Muslim dense countries including Malaysia, Indonesia, Pakistan and Brunei showed the lowest uptake of CRC screening compared to Western nations such as Australia and Japan. This was perhaps influenced by lower levels of knowledge relating to CRC symptoms and cancer risks in these populations compared to countries that had higher levels of participation.[20] A recent American study aimed to understand reluctance for CRC screening colonoscopy among Muslim Arab-Americans. All participants were recruited directly from mosques during Friday prayers. Muslims showed lower uptake of CRC screening compared to non-Arab groups. Discomfort, unawareness about CRC screening and non-recommendation from primary care were reported barriers.[21] Once-only flexible sigmoidoscopy (FoS) as a screening modality for CRC is currently being piloted in the UK and may supersede FoBT in the future. Language difficulties with failures to meet religious sensitivities were perceived barriers to FoS screening uptake among ethnic groups in the UK which included Muslim groups.[22]

These findings imply that developing an understanding of how religion and culture impact upon health beliefs will aid the development of novel interventions to improve CRC screening uptake in this population. The benefits of such interventions are likely to be sustained even if screening methods change in the future.

Aim

With rising rates of colorectal cancer, poorer outcomes than white populations, low levels of awareness of the symptoms, and low uptake of screening, there is a pressing need to address these inequalities among British Muslims.

My Fellowship therefore had two broad aims:

1) In order to better understand the faith-derived health beliefs relating to colorectal cancer screening uptake, symptom appraisal and health seeking behaviour among UK Muslims, I aimed to investigate the influence of faith leaders and fatwa derived texts on health-related decision-making.
2) Using the framework described by the MRC's 'Development and Evaluation of Complex Interventions',[23, 24] I aimed to develop socio-culturally acceptable interventions based on faith principles which promote earlier help-seeking and presentation to general practice. To do this I aimed to visit a number of centres in the US that had demonstrated this approach effectively.

Why travel to Saudi Arabia?

The problem associated with generating a universal Islamic edict or *fatwa* from the UK was clear from my previous work relating to intestinal stomas.[25] Despite Islamic rulings being seemingly universal as they are based on Islamic scripture, the specific interpretations for each ruling leads to huge variation in understanding and acceptance. My own experiences of this issue concluded me to think that a fatwa generated from the UK was going to hold little or no value to UK Muslims. Saudi Arabia houses two of the holiest sites in Islam. These being the Ka'ba in Mecca and the Prophet's mosque in Medina. Saudi Arabia is a deeply religious country where Shariah Law is practiced. It also houses one of the leading authorities on Islamic Jurisprudence called the Grand Council

of Mufti's in the capital Riyadh. The council's principle role is to deliver Islamic fatawās for the global Muslim population. Contemporary issues are also discussed at the University of Medina and I had some previous experience working with Law students from this institution on colorectal health issues. With its influential role on the global Muslim population and over-riding authority in generating fatāwas on modern health issues, I concluded that Saudi Arabia would be optimally placed to help me develop a faith-based health initiative for colorectal cancer in UK Muslims. This approach was equivalent to seeking advice directly from the Pope instead of a local Priest(s).

Though colorectal cancer is uncommon in Saudi Arabia compared to figures from across the globe, the country has noticed a significant increase in incidence in colorectal cancer particularly for late stage cancers.[26] It is now one of the most common cancers. The matter is compounded further as Saudi Arabia does not yet have a screening programme for colorectal cancer but does offer opportunistic screening via general practice. Despite this, the Kingdom has invested heavily in cancer services and the activity of the Saudi Cancer Society has seen a new lease of life.[27] Their most recent achievement has been the establishment of a national Breast cancer screening programme. This was part-funded and supported by Roche Pharmaceuticals. There are now plans to develop a national bowel cancer screening programme. [27] I wished to see if the programme instilled any Islamic or faith derived health messages to further promote the message of early health seeking. An early paper investigated the attitudes of Saudis' to screening and despite the majority supporting the notion of screening, no religious factors on health beliefs or attitudes were considered.[28] These may be substantial in a country where faith is central to daily life.

I travelled to Riyadh, Saudi Arabia in 2013. I first visited the leading Sheikh of Riyadh, Sheikh Saleh Al-Luhaidan. The Sheikh was the past Grand Mufti of Saudi Arabia and sat on a high select committee of scholars who presided over Islamic issues for the global Muslim population. His son, (pictured overleaf) Fahad al-Luhaidan had published a book recently on the Islamic viewpoint on contemporary medical ethics which was aimed at medical professionals. His own PhD was on medical ethics and the role of Islam on these issues. I spoke with the Sheikh and his son at length via an interpreter. The conclusions drawn from this talk were very disheartening at first. It was clear that a universal fatwa or indeed any fatwa compelling Muslims to seek medical attention or to take part in screening for colorectal cancer was not going to be possible. He explained that in Islam a fatalistic viewpoint was held when it came to death and illness. If an individual was destined to have cancer then there was nothing he or she could do to change that destiny. Furthermore, despite Islam encouraging healthy behaviours and the avoidance of unhealthy behaviours such as smoking and drinking (which help reduce the risk of cancer), active participation in health initiatives like screening were not going to be supported in asymptomatic individuals from an Islamic viewpoint as it opposed the notion of God's will and an individual's 'destiny'. After initially assuming this to be a major limitation, I was later encouraged when considering the implications of this rule. The position held by the Sheikh appeared to be supportive of symptomatic individuals, i.e. those with symptoms of colorectal cancer. Such individuals were in fact encouraged to seek early medical help from an Islamic viewpoint. This was founded upon the principles that the body is a gift from God and thereby looking after it when it is diseased or

unhealthy is strongly endorsed. Ignoring symptoms is potentially harmful and this is impermissible in Islam. The conclusions from this important interaction made it clear in my mind that a future health initiative in the UK centred on Islamic scripture where Muslims were ordered to participate in cancer screening was not going to be possible. However health promotion, via smoking cessation and the adoption of healthy behaviours which reduced cancer risk would be strongly supported by Islamic literature. Furthermore, Islamic advocacy for patients harbouring symptoms of cancer would be possible and this was the major finding from the Fellowship. This would be mean that a future faith-placed (as apposed to faith-based) health promotion initiative in the UK would be feasible. Thereby using places of worship like mosques where symptom appraisal could be discussed would serve as a huge benefit in the UK. The utility of focusing on symptomatic individuals is significant. Data from the UK demonstrate that patients diagnosed with colorectal cancer harboured symptoms at the time of diagnosis. These rates are much higher than those individuals who were asymptomatic and were later diagnosed with cancer through screening. Hence using a combination of faith-based and faith-placed health initiatives to improve symptom appraisal in these high-risk individuals would be significant.

Figure 3

Meeting with the Grand Mufti, Sheikh Sakeh Al-Luhaidan (second from left), From far left Dr Omar Al-Kujan, Sheikh Luhaidan, Fareed Iqbal and Sheikh Dr Fahad Al-Luhaidan.

Figure 4

Intense discussions with the Sheikh with a local translator.

Faith-based health initiatives

I met with a number of health professionals in Saudi Arabia. Dr Omar Kujan works as an Associate Professor of Oral Medicine in Al-Farabi College of Medicine and Dentistry in Riyadh. He has a specialist interest in Oral Cancer screening (Figure 5) and has published many times on oral cancer screening here in the UK and in Saudi Arabia. Dr Kujan explained that screening was an extremely novel concept in Saudi Arabia where people often only presented to health services when symptoms were severe, indicating advanced stage of cancer. He also made it clear that the support for national screening initiatives was changing among policy makers and that in the next ten years there would be a surge in cancer screening initiatives in Saudi Arabia. He remained unclear how this would come about as expertise on setting up screening programmes was lacking. He supported the notion that Saudi patients held a fatalistic viewpoint on health and disease. His specialist interest on Oral Cancer, which is strongly associated with smoking and chewing tobacco, was rising despite these behaviours being impermissible in Islam. He felt unsure of the role of Islam on health promotion and cancer. He was unaware of any faith-based health initiatives in Saudi Arabia.

I also met with a leading Consultant Colorectal surgeon at the King Faisal Hospital & Research Centre in Riyadh who wished to remain anonymous. The surgeon had recently published a paper advocating the need to develop a robust national colorectal cancer screening programme in Saudi Arabia, so shared the same interests as me.[27] I had hoped to understand what colorectal cancer specialists were doing to tackle colorectal cancer incidence in the Kingdom and explored whether faith derived public health promotion were being utilised. Setting up the meeting was a little challenging and it is only through my UK contacts did the surgeon finally agree to meet with me. The surgeon understood the growing colorectal cancer incidence in the country and the urgency in tackling this major health issue. It was felt that the sharp rise in incidence was most likely due to the lack of a national screening programme and adoption of risky behaviours. The surgeon

had some experience in utilising faith leaders for colorectal disease health issues but on the whole felt that the two factors of cancer and religion were separate. When I proposed that most cancers present in symptomatic individuals and that improving symptom appraisal was key in driving early presentation over a national screening programme, the surgeon appeared slightly supportive of this but did not feel that religion was the right facet to achieve this.

My own assessment of this interaction was that there was a general unease in discussing religion in any context, particularly with an outsider like me given the current political climate. For example, I was denied permission in making notes during the meeting and the surgeon did not wish to appear in my report. With this said, it may be possible that faith-derived screening programmes are used in future Saudi cancer screening initiatives but its open discussion at the current time is limited to those working inside Saudi Arabia.

I had also planned to meet with Sister Denise Hibbert, lead colorectal nurse specialist at the King Faisal Hospital. My aim was to speak with Saudi colorectal cancer survivors via Sister Hibbert to seek their view on faith-derived health messages for colorectal cancer health promotion. Unfortunately this meeting was cancelled; probably owing to the reasons mentioned above.

Figure 5

Meeting with Dr Omar Kujan in Riyadh. The desire to set up national cancer screening initiatives in Saudi Arabia is strong. However there are no faith-based public health measures to facilitate health promotion, screening or symptom appraisal despite the country following Shari'ah Law.

Conclusions

There is strong potential for faith derived health messages to promote healthy living among Muslims which reduce cancer specific risk factors. Muslims with cancer symptoms may be prompted to seek medical help using faith-based health messages. Furthermore faith-placed health promotion where soft Islamic messages are used to create a background support for screening uptake may be possible but requires careful wording to avoid offence. However, currently there are no examples from Saudi Arabia where this strategy has been employed. During the next phase of the Fellowship I wished to learn how faith-based programmes can be developed and to determine what factors should be explored before a programme is developed.

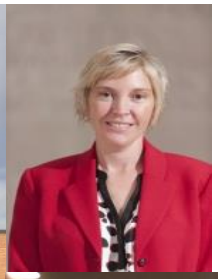
Travel to the US.

In order to better characterise future strategies on improving colorectal cancer symptom appraisal and screening uptake among ethnic minority groups using faith-derived approaches I wished to visit centres that had demonstrated this methodology in previous research. My visit to Saudi Arabia allowed me to begin to understand how this strategy may be developed and what factors needed to be considered but there had been no actual research using this strategy. Furthermore, from my meetings with health professionals in Saudi Arabia it was clear from the views expressed that using faith as a tool to improve symptom appraisal in the target population was not fully supported.

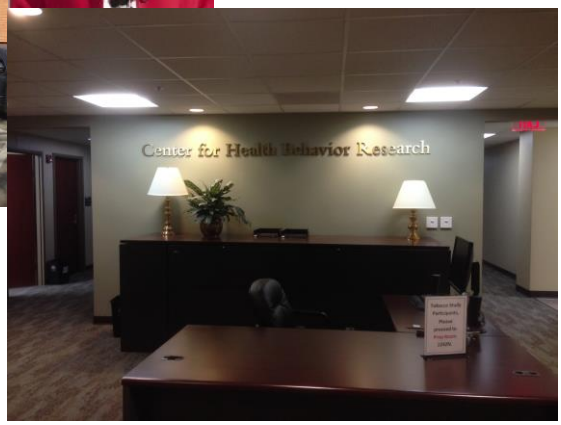
I first travelled to the University of Maryland to visit, Professor Cheryl Holt who has developed pastor led-education programmes for CRC, breast and prostate screening awareness using church groups among African-Americans [29, 30]

Prof Holt kindly organised a series of meetings for me with senior academics who had experience and knowledge on working with faith groups to promote better symptom appraisal and healthy behaviours including uptake of cancer screening (Figure 8). These included Prof Donna Howard who had a wealth of knowledge working with socially deprived ethnic minority groups in the US and India. I also sat with Prof Muhiuddin Haider who had global experience on working with Muslim communities to develop public health programmes including polio vaccination in Pakistan. I also sat with Professor Robert Feldman at the University of Maryland, who introduced me to the fascinating concepts of the ‘Spiritual Health Locus of Control’ and ‘God Locus of Health control’. These concepts attempt to explain the behaviours people of higher religiosity may hold when it comes to health. The active spiritual locus of health control reflects the idea that God empowers an individual to take care of their body and participate in healthy behaviours. The Passive locus of control otherwise known as the God Locus of Health Control centres on the belief that God controls ones health irrespective of what the individual may do. Certainly it has been shown that people with the latter hold a fatalistic viewpoint which precludes them from adopting healthy or risk aversion behaviours.

Figure 6

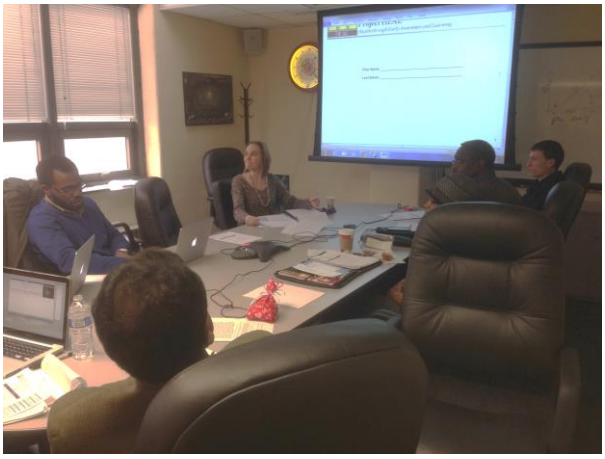


Prof Cheryl Holt is an associate professor in the Department of Behavioural and Community Health at the University of Maryland. She has examined the involvement of faith and colorectal, breast and prostate cancer in African Americans.



The School of Public Health at the University of Maryland has conducted policy changing research on promoting cancer understanding using community based faith initiaitives.

Figure 7



(Right) Sitting in on a committee meeting for the HEAL project (*Health through Early awareness and Learning).* This is a five year project which aims evaluate the effectiveness of faith-placed cancer education programmes delivered by community leaders in changing screening behaviours in African Americans. (Left) Student meet and greet at the University of Maryland School of Public Health

I also learnt about the ways in which religion and health can interact (Figure 9). By appreciating these concepts I began to understand how these factors would need to be considered in a future trial in the UK which aimed to interact with these concepts to promote better cancer symptom appraisal. The concepts of locus of health control have never been explored in Muslim populations; these would need to be considered for future health interventions.

Figure 8

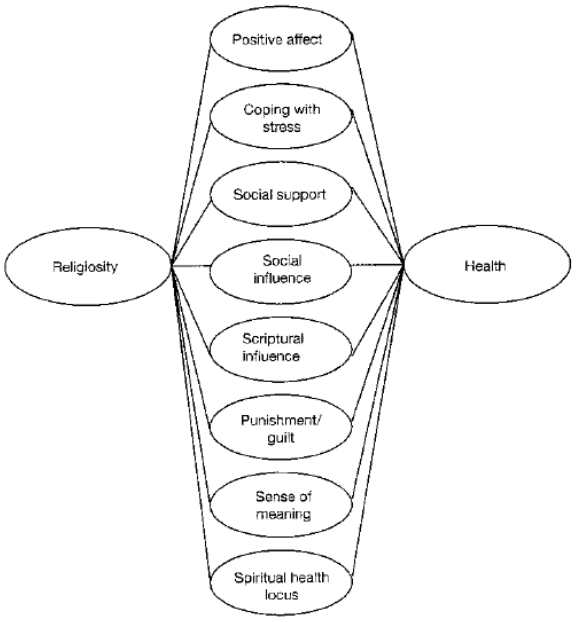
The kind faculty at the University of Maryland who hosted me and hugely improved my understanding of faith and health interactions in public early cancer detection.

Prof Robert Feldman **Prof Donna Howard** **Prof Muhiuddin Haider** **Ms Daisey Le** **Tina Madison**

UNIVERSITY OF MARYLAND | SCHOOL of PUBLIC HEALTH
Advancing a Better State of Health

Figure 9

Theoretical model of the religion and health association. Taken with kind permission from Holt *et al* [31]



I then travelled to New York and met with a series of investigators from New York University. The first investigator I met was Dr Joseph Ravenell who is an Associate

Professor at the Centre for Health Behaviour Change in the Langone Medical Centre, New York University. Dr Ravenell had recently completed a cluster randomised clinical trial funded by the National Institute for Health (Title: Faith-Based Approaches to Treating Hypertension (HTN) and Colon Cancer Prevention**;** grant code 5R01HL096946-05) which successfully recruited more than 400 men, and aimed to improve blood pressure and colorectal cancer screening uptake among African-American men. His intervention consisted of a series of telephone and face to face motivational interviewing lifestyle interventions (MINT) delivered by trained community lay persons. The most interesting and novel aspect of this trial was that the MINT intervention was delivered at barber shops and churches. The Winston Churchill Memorial Trust had previously funded a Fellow to investigate prostate cancer awareness among African Americans through a similar approach and so I was aware of the effectiveness of the barbershop network approach. Dr Ravenell felt that the church intervention was better received and led to higher cancer screening uptake. I learnt that in his study, the church was simply used as a vessel for establishing contact with the target population and faith-specific interventions were not used. However some of the lay people used were pastors and religious figures and by using these individuals a subliminal religious element may have been introduced.

I then met with Dr Nadia Islam and Dr Shilpa Patel at New York University who are co-leads on a population study called the MARHABA project (Muslim Americans Reaching for Health and Building Alliances) This study partnered with trained lay community members from mosques across the New York area and developed and disseminated health education materials and strategies that were considered relevant and sensitive to Muslim populations to increase rates of breast and cervical cancer screening among Muslim women. Dr Islam kindly provided me with the materials and strategies used to recruit women into the study. This was particularly useful as recruitment of women from these backgrounds is acutely difficult in the UK. Dr Islam advised me to shy away from strongly worded Islamic scripture in health promotional materials as these would be considered ineffective and perhaps patronising to some. Her advice was to use people on health promotional materials who could clearly be recognised as being Muslim. Using religious facilities to promote healthy behaviours and attend screening via community faith leaders was also advocated.

Conclusions

The key findings from the US trip were that exploring the faith domains to change risk-taking behaviours or adopting healthy behaviours was a fruitful and worthy area of investigation which is yet to be adopted in the UK. The investigators which I met had demonstrated that by working directly with faith organisations, screening behaviours and early presentation of colorectal cancer can be achieved. The success of any faith intervention depends on if and to what extent faith affects an individual's health behaviours. If Muslims hold the God Locus of Control opinion (which requires formal study) where everything is left in God's will, then it might be better served for health researchers to simply use faith institutions to capture Muslims who harbour symptoms of cancer. In these scenarios Islamic scripture could be used to softly encourage these individuals to present earlier to primary care. Furthermore, the most invaluable experience I gathered from spending time on the HEAL project in Maryland, the

MARAHABA project in New York and Dr Ravenell's research on Hypertension and Colorectal cancer was that approaching faith-based institutions via appropriately trained community/faith health workers was the best way of achieving change at the individual level and recruiting the numbers required for a future clinical trial.

Future Work

The information gathered from this Fellowship has been invaluable and a life-memorable journey. Only just recently I read an interesting paper authored by researchers from the UK who investigated reasons for low colorectal cancer screening uptake among different South Asian faith groups. In their qualitative research, based largely on information gathered from community representatives from the Bangladeshi community, they found that Muslims had a preference for non-written verbal information delivered interactively within faith and community settings. This type of research is welcomed and I hope that my report alongside the slowly increasing published evidence in this area promotes clinicians to consider the faith domains when designing cancer screening uptake and symptom appraisal improvement programs for Muslims. I recommend clinicians and policy-makers of Cancer Research and Public Health to develop such programs with faith leaders and community health workers during the development phase.

I aim to use the collaborations which have been established through this Fellowship to build upon this research and carry out a large population based study exploring the utility of a faith-placed health intervention in promoting earlier presentation and screening uptake for colorectal cancer. I have not only met all of the aims of the Fellowship but have fostered life-long academic collaborations which can be used to strengthen the quality of research here in the UK.

References

1. http://www.cancerresearchuk.org/. [21 September 2011].
2. Power E, Simon A, Juszczyk D, Hiom S, Wardle J. Assessing awareness of colorectal cancer symptoms: measure development and results from a population survey in the UK. *BMC Cancer*. 2011;11:366.
3. Thomson CS, Forman D. Cancer survival in England and the influence of early diagnosis: what can we learn from recent EUROCARE results? *British journal of cancer*. 2009;101 Suppl 2:S102-109.
4. Mamidanna R, Eid-Arimoku L, Almoudaris AM, Burns EM, Bottle A, Aylin P, Hanna GB, Faiz O. Poor 1-year survival in elderly patients undergoing nonelective colorectal resection. *Diseases of the colon and rectum*. 2012;55:788-796.
5. Richards MA. The size of the prize for earlier diagnosis of cancer in England. *British journal of cancer*. 2009;101 Suppl 2:S125-129.
6. Inhorn MC, Serour GI. Islam, medicine, and Arab-Muslim refugee health in America after 9/11. *Lancet*. 2011;378:935-943.
7. Yosef AR. Health beliefs, practice, and priorities for health care of Arab Muslims in the United States. *J Transcult Nurs*. 2008;19:284-291.
8. Esmail A. Should Muslims have faith based health services? *BMJ*. 2007;334:75.
9. Harris AR, Bowley DM, Stannard A, Kurrimboccus S, Geh JI, Karandikar S. Socioeconomic deprivation adversely affects survival of patients with rectal cancer. *The British journal of surgery*. 2009;96:763-768.
10. Norwood MG, Mann CD, Hemingway D, Miller AS. Colorectal cancer: presentation and outcome in British South Asians. *Colorectal Dis*. 2009;11:745-749.
11. Parkin DM, Bray FI, Devesa SS. Cancer burden in the year 2000. The global picture 14. *EurJCancer*. 2001;37 Suppl 8:S4-66.
12. Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM. Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *Int J Cancer*. 2010;127:2893-2917.
13. Center MM, Jemal A, Smith RA, Ward E. Worldwide variations in colorectal cancer. *CA: a cancer journal for clinicians*. 2009;59:366-378.
14. Ali R, Barnes I, Kan SW, Beral V. Cancer incidence in British Indians and British whites in Leicester, 2001-2006. *British journal of cancer*. 2010;103:143-148.
15. Szczepura A, Price C, Gumber A. Breast and bowel cancer screening uptake patterns over 15 years for UK south Asian ethnic minority populations, corrected for differences in socio-demographic characteristics. *BMC Public Health*. 2008;8:346.
16. Ghouri N, Atcha M, Sheikh A. Influence of Islam on smoking among Muslims. *BMJ*. 2006;332:291-294.
17. Rashid YA, Ghafoor ZA, Masood N, Mehmood T, Awan S, Ansar T, Mirza M, Rashid UA. Psychosocial impact of cancer on adult patients. *J Pak Med Assoc*. 2012;62:905-909.
18. Taskila T, Wilson S, Damery S, Roalfe A, Redman V, Ismail T, Hobbs R. Factors affecting attitudes toward colorectal cancer screening in the primary care population. *British journal of cancer*. 2009;101:250-255.
19. Waller J, Macedo A, von Wagner C, Simon AE, Jones C, Hammersley V, Weller D, Wardle J*, et al.* Communication about colorectal cancer screening in Britain: public preferences for an expert recommendation. *British journal of cancer*. 2012;107:1938-1943.
20. Koo JH, Leong RW, Ching J, Yeoh KG, Wu DC, Murdani A, Cai Q, Chiu HM*, et al.* Knowledge of, attitudes toward, and barriers to participation of colorectal cancer screening tests in the Asia-Pacific region: a multicenter study. *Gastrointest Endosc*. 2012;76:126-135.
21. Talaat N, Harb W. Reluctance to screening colonoscopy in arab americans: a community based observational study. *J Community Health*. 2013;38:619-625.
22. Austin KL, Power E, Solarin I, Atkin WS, Wardle J, Robb KA. Perceived barriers to flexible sigmoidoscopy screening for colorectal cancer among UK ethnic minority groups: a qualitative study. *J Med Screen*. 2009;16:174-179.

23. Campbell M, Fitzpatrick R, Haines A, Kinmonth AL, Sandercock P, Spiegelhalter D, Tyrer P. Framework for design and evaluation of complex interventions to improve health 4. *BMJ*. 2000;321:694-696.
24. Craig P, Dieppe P, Macintyre S, Michie S, Nazareth I, Petticrew M. Developing and evaluating complex interventions: the new Medical Research Council guidance 7. *BMJ*. 2008;337:a1655.
25. Iqbal F, Zaman S, Karandikar S, Hendrickse C, Bowley DM. Engaging with Faith Councils to Develop Stoma-specific Fatawas: A Novel Approach to the Healthcare Needs of Muslim Colorectal Patients. *J Relig Health*. 2013.
26. Alsanea N, Abduljabbar AS, Alhomoud S, Ashari LH, Hibbert D, Bazarbashi S. Colorectal cancer in Saudi Arabia: incidence, survival, demographics and implications for national policies. *Ann Saudi Med*. 2015;35:196-202.
27. Alsanea N, Almadi MA, Abduljabbar AS, Alhomoud S, Alshaban TA, Alsuhaibani A, Alzahrani A, Batwa F*, et al.* National Guidelines for Colorectal Cancer Screening in Saudi Arabia with strength of recommendations and quality of evidence. *Ann Saudi Med*. 2015;35:189-195.
28. Alsanea NA. The acceptability of screening for colorectal cancer in Saudi Arabia: myths busted. *Saudi J Gastroenterol*. 2015;21:59.
29. Holt CL, Roberts C, Scarinci I, Wiley SR, Eloubeidi M, Crowther M, Bolland J, Litaker MS*, et al.* Development of a spiritually based educational program to increase colorectal cancer screening among African American men and women. *Health Commun*. 2009;24:400-412.
30. Holt CL, Wynn TA, Southward P, Litaker MS, Jeames S, Schulz E. Development of a spiritually based educational intervention to increase informed decision making for prostate cancer screening among church-attending African American men. *J Health Commun*. 2009;14:590-604.
31. Holt CL, Lewellyn LA, Rathweg MJ. Exploring religion-health mediators among African American parishioners. *J Health Psychol*. 2005;10:511-527.