

Knowledge and Awareness about Colorectal Cancer and Its Screening Guidelines among Doctors in Al Ahsa, Eastern Province, Kingdom of Saudi Arabia

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Abstract

Introduction: Cancer is a major public health problem. Worldwide, colorectal cancer (CRC) is a leading cause of deaths due to cancer in both men and women. Among, Saudi men, CRC is the most common malignancy while it is the third most common among Saudi women. Over, two decades the incidence and deaths due to CRC have been steadily increasing in Saudi Arabia. Regular and timely screening has the potential in reducing the incidence and deaths due to colorectal cancer. The present study is conducted to evaluate the knowledge and awareness about colorectal cancer and its screening among the doctors.

Objectives: To measure the frequency of knowledge and awareness about colorectal cancer and its screening guidelines among doctors in Al-Ahssa.

Methods: A questionnaire based survey of the doctors (Specialists & residents), working in different hospitals and primary health centers under the Ministry of Health in Al Ahssa region, Eastern province, KSA. Knowledge and awareness about colorectal cancer and its screening among the doctors is evaluated.

Results: Over 80% of the doctors knew, screening reduces deaths due to CRC. Only 60% were aware about the risk factors and less than 50% knew the clinical features of CRC. About 60% doctors agreed Colonoscopy is gold standard screening test. While, less than 60% knew the ideal age to initiate screening and the actual interval of screening tests in the standard risk and high-risk population. Fewer than 25% doctors were aware about the American cancer society recommended screening guidelines. Majority of the doctors expressed keen interest to know and receive information about CRC and its screening guidelines.

Conclusions: Regular and timely screening reduces deaths due to CRC. There is a need for improving knowledge and awareness of doctors about CRC and its screening. Awareness among the doctors improves uptake of screening by the general and high-risk population.

Keywords: colorectal cancer, screening, doctors, Kingdom of Saudi Arabia

1. Introduction

Cancer is a major public health problem. Worldwide Colorectal cancer CRC is one of the leading cancers in both men and women (Ferley, 2013; Bernard, 2014). In the United States, colorectal cancer is the third common cancer in both men and women (Seigel, 2014). As per the Saudi cancer registry 2010, CRC is the most common malignancy among Saudi men and third most common in women (Ministry, 2014; Eid, 2007). Over the past two decades, a steady increase in the incidence and deaths due to CRC has been reported from Saudi Arabia (Mosli, 2012; Ibrahim, 2008). Majority of the patients had an advanced stage disease and survival rates of 44.6%, which is lower than the reported survival rates all over the world (Elsamany, 2014). Further, nearly half of the cases were diagnosed in individuals less than 50 years of age with mean age of 58 years, which is lower than reported from the developed countries (Aljebreen, 2007; Ibrahim, 2008). Colorectal cancer with its high incidence and a long interval between the appearance of the polyps and frank carcinoma is an ideal tumor for screening. Regular and timely screening helps in the detection and removal of both precancerous lesions and early stage cancer, there by

reduces both the incidence and deaths due to CRC (Winawer, 1997; Burt, 2010). Several studies from Saudi Arabia and outside, stressed the need for preventive measures and early detection of the disease (Almurshed, 2009; Umer, 2009). Recently, a downward trend in both the incidence and mortality from CRC is reported from the United States. This positive outcome may be attributed to widespread implementation of screening programs along with better understanding of the pathogenesis and advances in the treatment (Edwards, 2006). The current ACS guidelines for CRC screening includes: Fecal occult blood testing (FOBT) - Annually, Sigmoidoscopy every 5 years and colonoscopy once every 10 years, all starting at age 50 years (Levin, 2008). Knowledge, awareness, and beliefs of the doctors about CRC and its screening is a major factor, motivating general population to undergo screening (Sheih, 2005; Gennarelli, 2005). Considering the important role of the doctors (Specialists and Residents) in the screening activities, the present study was conducted to prospectively evaluate the knowledge and awareness about CRC and its screening programs among the doctors, working in different hospitals and primary health care centers in Al Ahssa region, Eastern province of Kingdom of Saudi Arabia.

2. Method

Ours is a cross sectional study. Between, December 2014–September 2015, total 160 doctors employed in different hospitals and primary health centers, under Ministry of health, in Al Ahssa region, eastern province, KSA were evaluated. Questionnaire about the CRC and its screening guidelines was given to doctors by hand. The questionnaire was pilot tested on five internists for the content validity. The questionnaire was distributed to the doctors after seeking permission from the hospital authorities. A group of medical students involved in the research handed over questionnaire to the doctors during their free time in the hospital. The survey questionnaire took approximately 15 minutes to complete. Response to the questions were designed in the form of agree or disagree. Results of the survey are presented as percentages. Questionnaire has four sections- Section 1: Demographic characteristics of the doctors, Section 2: Risk factors and the Symptoms of CRC, Section 3: CRC Screening guidelines recommended by the American cancer society and Section 4: Ideal screening test, timing and frequency of testing in standard and high risk individuals.

2.1 Statistical Analysis

Descriptive statistics is performed using the Statistical Package for the social sciences version 21.0 (SPSS). Variables are presented as frequencies and percentages.

3. Results

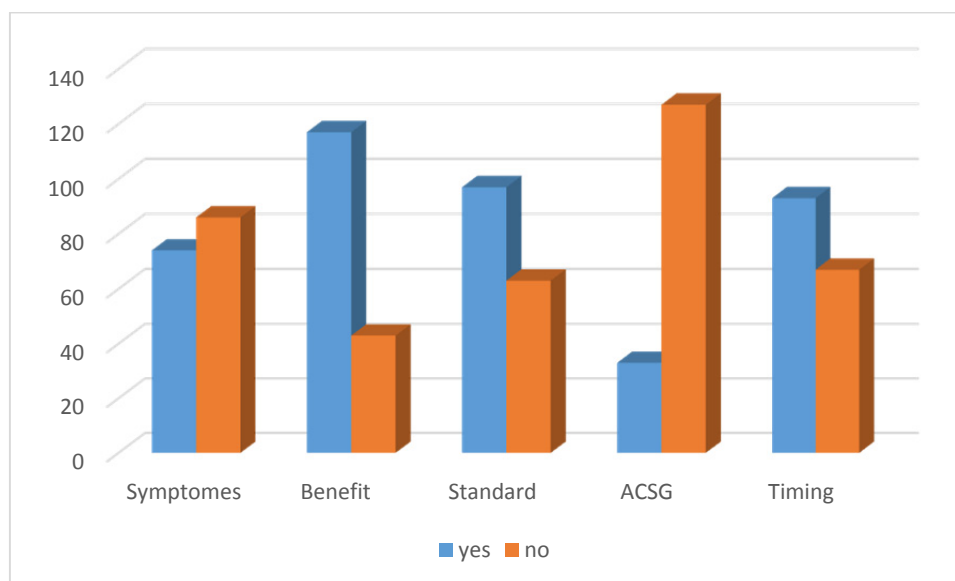
Total 160 doctors (Specialists 33% and Residents 67%) were evaluated using self-administered questionnaire. Internists were 59% and surgeons 41%. Male doctors were 77% and Female 23%. Nearly 85% doctors knew, screening reduces deaths due to CRC. While 73% knew the actual benefits of screening (detection and removal of polyps and precancerous lesions in asymptomatic individuals), only 50% doctors could define screening correctly (testing of asymptomatic individuals). About, 60% of the doctors knew the high risk factor for CRC such as diet rich in calories, fat and red meat. While less than 45% doctors knew about westernized life style and the risk of CRC – Physical inactivity, excess weight gain, excess alcohol consumption, and smoking. Less than 50 % of the doctors knew the symptoms of CRC – Bleeding per rectum, constipation, altered bowel habits and pain abdomen. Over 95% of the doctors knew about the hereditary nature of CRC. Moreover, 60% knew colonoscopy is the gold standard screening test for CRC. Less than 25% (21%) doctors were aware about the American Cancer Society recommended screening guidelines and the actual interval of the screening–FOBT annually, Flexible Sigmoidoscopy every 5 years and colonoscopy once every 10 years. Ideal age to initiate screening in average risk individual (50 years) was known to 58% doctors while less than 50% knew the age to initiate screening in high-risk individuals (40 years). More than 85% agreed that, Knowledge and awareness about the CRC and its screening guidelines among the doctors would improve uptake of screening in the general population. In our survey more than 90% doctors expressed their interest to know and to receive information about CRC and its screening guidelines.

Table 1. Demographics of the doctors

| Total number of doctors, N = 160 (100%) | Specialists n = 52(33) | Residents 108 (67) |
|--|-------------------------------|---------------------------|
| Male = 124(77%) | 44 (28) | 80 (50) |
| Female = 36(23%) | 08 (05) | 28 (17) |

Table 2. About colorectal cancer & screening

| About colorectal cancer symptoms | Agreed (%) |
|--|-------------------|
| Symptoms | 45 |
| Bleeding PR | 65 |
| Constipation | 25 |
| Altered bowel habits | 29 |
| Pain abdomen | 60 |
| Definition of screening: Screening done to detect | |
| Symptomatic Early stage cancer | 49 |
| Asymptomatic | 51 |
| Benefits of Screening | 73 |
| Detect early stage cancer | 83 |
| Reduces deaths due to cancer | 76 |
| Regular screening prevents cancer | 69 |
| Gold standard screening test | |
| Colonoscopy | 60 |
| Sigmoidoscopy | 27 |
| FOBT | 13 |
| Ideal timing to initiate screening | 53 |
| Average risk individuals – 50 years | 58 |
| High risk individuals – 40 years | 47 |
| Like to receive information about CRC and its screening | 87 |
| ACS recommended CRC screening guidelines | |
| FOBT – Annually; FS – 5 years; CS – 10 years | 21 |



Graph 1.

4. Discussion

The primary objective of our study is to evaluate the awareness and understanding of the CRC and its screening modalities among the doctors working in different hospitals under ministry of health, in Al Ahssa region, eastern province, Kingdom of Saudi Arabia. Over 95% of the doctors considered CRC as a major public health problem and they admitted that screening would help in reducing the incidence and deaths due to CRC. Several studies from Saudi Arabia and outside have concluded and highlighted the need for screening to reduce deaths due to CRC (Mosli 2012, Elsamany 2014 and Aljebreen 2007). Over, 65% of the doctors agreed Colonoscopy as gold standard test for screening. Several studies from Saudi Arabia strongly recommend population screening for CRC, as benefits outweigh the drawbacks (6). Physicians play a critical role in implementing guidelines and achieving public health targets for colorectal cancer screening (Brawarsky 2004). Saudi Arabia; patients attend the primary health centers for their first consult. Very little is known about the practice of CRC screening by primary care physicians, as there is no published data on the practice of colorectal cancer screening from this region. In the United States, practice of colorectal cancer screening is excellent, achieving 90-95% of health care providers recommending screening (Task Force 2002). Our study results showed that CRC screening is underutilized as more than half of the study subjects were not practicing CRC screening in spite of the documented survival benefit from CRC screening (Klabunde 2003, Mandel 2000 and Hardcastle 1996). This can be attributed to lack of information and knowledge among the doctors about the recommended screening guidelines and poor awareness about the timing of initiation of screening and its benefits. Seeff et al. concluded that lack of physician recommendation is one of the most common reasons for patients not undergoing screening (Seef 2004). Knowledge and awareness of doctor's about CRC and its screening modalities will have a great impact on the population screening, thereby reducing deaths due to CRC (Fedrici 2005). We are aware of the limitation of our study as it is a single time point. Secondly, it involves only those doctor's in the general hospitals and primary health centers under the ministry of health in the Al Ahssa region. Our results may not reflect the overall knowledge and awareness of all the doctors from the region as we have excluded doctors in the private setting, which is assumed to see almost an equal number of patients.

5. Conclusions

Regular and timely screening reduces deaths due to CRC. Awareness about CRC and its screening among the doctor's improves uptake of screening by the average and high-risk population. In our present survey, we found a sizeable percentage of doctor's have less clear information about the CRC screening guidelines. We therefore recommend and suggest that there is a need for large-scale educational programs, which keeps the doctor's updated with the latest screening guidelines.

Competing Interests Statement

The authors declare that there is no conflict of interests regarding the publication of this paper.

References

- Ferlay, J., Soerjomataram, I., Ervik, M., et al. *GLOBOCAN 2012 v1.0, Cancer Incidence and Mortality Worldwide: IARC CancerBase No. 11* [Internet]. Lyon, France: International Agency for Research on Cancer; 2013. Retrieved from <http://globocan.iarc.fr>, accessed November 2016.
- Siegel, R., Ma, J., Zou, Z., & Jemal, A. (2015). Cancer statistics, 2014. *CA Cancer J Clin*, *65*, 5-29. <https://doi.org/10.3322/caac.21254>
- Ministry of Health, cancer incidence and survival Report, Saudi Arabia, 2010, April 2014, Retrieved from <http://www.scr.org.sa>
- Aleid, H. S., & Al-Zahrani, A. (2007). *Cancer Incidence and Survival Report Saudi Arabia*. Retrieved from <http://www.scr.org.sa>
- Mosli, M. H., & Al-Ahwal, M. S. (2012) Colorectal cancer in the Kingdom of Saudi Arabia: need for screening. *Asian Pacific Journal of Cancer Prevention*, *13*(8), 6285-6288, 2012. <https://doi.org/10.7314/APJCP.2012.13.12.6285>
- Ibrahim, E. M., Zeeneldin, A. A., El-Khodary, T. R., Al-Gahmi, A. M., & Bin Sadiq, B. M. (2008). Past, present and future of colorectal cancer in the Kingdom of Saudi Arabia. *Saudi J Gastroenterol*, *14*, 178-82. <https://doi.org/10.4103/1319-3767.43275>
- Elsamany, S. A., Alzahrani, A. S., Mohamed, M. M., Elmorsy, S. A., Zekri, J. E., Al-Shehri, A. S., ... El-Taani, H. A. (2014). Clinico-pathological patterns and survival outcome of colorectal cancer in young patients: western Saudi Arabia experience. *Asian Pac J Cancer Prev*, *15*(13), 5239-5243. <https://doi.org/10.7314/APJCP.2014.15.13.5239>
- Aljebreen, A. M. (2007). Clinico-pathological patterns of colorectal cancer in Saudi Arabia: Younger with an advanced stage presentation. *Saudi Journal of Gastroenterology*, *13*(2), 84-87. <https://doi.org/10.4103/1319-3767.32183>
- Ibrahim, E. M., Zeeneldin, A. A., El-Khodary, T. R., Al-Gahmi, A. M., & Sadiq, B. M. B. (2008) "Past, present and future of colorectal cancer in the Kingdom of Saudi Arabia. *Saudi Journal of Gastroenterology*, *14*(4), 178-182. <https://doi.org/10.4103/1319-3767.43275>
- Winawer, S. J., Fletcher, R. H., Miller, L., Godlee, F., Stolar, M. H., Mulrow, C. D., et al. (1997). Colorectal-cancer screening: clinical guidelines and rationale. *Gastroenterology*, *112*, 594-642. <https://doi.org/10.1053/gast.1997.v112.agast970594>
- Burt, R. W., Barthel, J. S., Dunn, K. B., David, D. S., Drelichman, E., Ford, J. M., et al. (2010). NCCN clinical practice guidelines in oncology. Colorectal cancer screening. *J Natl Compr Canc Net*, *8*, 8-61.
- Almurshed, K. S. (2009). Colorectal cancer: case-control study of sociodemographic, lifestyle and anthropometric parameters in Riyadh. *Eastern Mediterranean Health Journal*, *15*(4), 817-826.
- Umar, A., & Greenwald, P. (2009). Alarming colorectal cancer incidence trends: a case for early detection and prevention. *Cancer epidemiol Biomarkers Prev*, *Jun*, *18*(6), 1672-1683. <https://doi.org/10.1158/1055-9965.EPI-09-0320>
- Edwards, B. K., Ward, E., Kohler, B. A., Ehemann, C., Zaubler, A. G., Anderson, R. N., et al. (2010). Annual Report to the Nation on the Status of Cancer, 1975–2006, Featuring Colorectal Trends and Impact of Interventions (Risk Factors, Screening, and Treatment) to Reduce Future Rates. *Cancer*, *116*(3), 544-73. <https://doi.org/10.1002/cncr.24760>
- Levin, B., Liberman, D. A., McFarland, B., et al. (2008). Screening and surveillance for the early detection of colorectal cancer and adenomatous polyps, 2008: a joint guideline from American cancer Society, the US military Task Force on colorectal cancer and the American College of Radiology. *Gastroenterology*, *134*(5), 1570-1595. <https://doi.org/10.3322/ca.2007.0018>
- Shieh, K., Gao, F., Ristvedt, S., Schootman, M., & Early, D. (2005) The impact of physicians' health beliefs on colorectal cancer screening practices. *Dig Dis Sci*, *50*, 809-814. <https://doi.org/10.1007/s10620-005-2644-3>
- Gennarelli, M., Jandorf, L., Cromwell, C., Valdimarsdottir, H., Redd, W., & Itzkowitz, S. (2005). Barriers to colorectal cancer screening: inadequate knowledge by physicians. *Mt Sinai J Med*, *72*, 36-44.
- Brawarsky, P., Brooks, D. R., Mucci, L. A., & Wood, P. A. (2004). Effect of physician recommendation and patient adherence on rates of colorectal cancer testing. *Cancer detect Prev*, *28*, 260-8.

<https://doi.org/10.1016/j.cdp.2004.04.006>

- U.S. Preventive services Task force: Screening for colorectal cancer; recommendation and rationale. *Ann Intern Med* 2002, 137, 129-131. <https://doi.org/10.7326/0003-4819-137-2-200207160-00014>
- Klabunde, C. N., Frame, P. S., Meadow, A., Jones, E., Nadel, M., & Vernon, S. W. (2003). A national survey of primary care physicians' colorectal cancer screening recommendations and practices, *Preventive Medicine*, 36(3), 352-362. [https://doi.org/10.1016/S0091-7435\(02\)00066-X](https://doi.org/10.1016/S0091-7435(02)00066-X)
- Mandel, J. S., church, T. R., Bond, J.H., Ederer, F., Geisser, M. S., Mongin, S. J., Snover, D. C., & Schuman, L. M. (2000). The effect of fecal occult-blood screening on the incidence of colorectal cancer. *N Engl J Med*, 343, 1603-1607. <https://doi.org/10.1056/NEJM200011303432203>
- Hardcastle, J. D., Chamberlain, J. O., Robinson, M. H., Moss, S. M., Amar, S. S., Balfour, T. W., ... Mangham C. M. (1996) Randomized controlled trial of Faecal-occult-blood screening for colorectal cancer. *Lancet*, 348, 1472-1477. [https://doi.org/10.1016/S0140-6736\(96\)03386-7](https://doi.org/10.1016/S0140-6736(96)03386-7)
- Seeff, L. C., Nadel, M. R., Klabunde, C. N., et al. (2004). Patterns and predictors of colorectal cancer test use in the adultsU.S. Population. *Cancer*, 100, 2093-103. <https://doi.org/10.1002/cncr.20276>
- Federici, A., Giorgi Rossi, P., Bartolozzi, F., Farchi, S., Borgia, P., & Guasticchi, G. (2005). Survey on colorectal cancer screening knowledge, attitudes and practices of general practice Physicians in Lazio, Italy. *Prev Med*, 41, 30-35. <https://doi.org/10.1016/j.ypmed.2004.11.010>

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