ISSN
2321–7359
EISSN
2321–7367

Medical Science

An International Journal

Effectiveness of Colorectal Cancer Counseling on Patients and their Relatives in Saudi Arabia, single Institution

Alkhayyat S[1]*, Abusanad A[1], Alwassiah R[2], Attar M[2], Allali D[3], AlJehani M[3], Khoja M[3], Alraddadi S[3], Aljahdali A[3], Alshammari S[3]

1. Department of Medicine, King Abdulaziz University, P.O.Box 80210, Jeddah, 21589,Saudi Arabia
2. Department of Radiology, King Abdulaziz University, P.O.Box 80210, Jeddah, 21589,Saudi Arabia
3. Faculty of Medicine, King Abdulaziz University, P.O.Box 80210,Jeddah,21589, Saudi Arabia

*Correspondence: Dr. Shadi Alkhayyat, Assistant Professor, Department of Medicine Faculty of Medicine, King Abdulaziz University, P.O.Box 80210, Jeddah 21589, Saudi Arabia, Email: Salkhayyat@kau.edu.sa

Publication History
Received: 19 September 2016
Accepted: 10 October 2016
Published: November-December 2016

Citation
Alkhayyat S, Abusanad A, Alwassiah R, Attar M, Allali D, AlJehani M, Khoja M, Alraddadi S, Aljahdali A, Alshammari S. Effectiveness of Colorectal Cancer Counseling on Patients and their Relatives in Saudi Arabia, single Institution. *Medical Science*, 2016, 20(82), 201-207

Publication License
This work is licensed under a Creative Commons Attribution 4.0 International License.

General Note
Article is recommended to print in recycled paper.

© 2016 Discovery Publication. All Rights Reserved

ABSTRACT

Background**:** Colorectal cancer (CRC) is a common cancer. Relatives of CRC patients are at a higher risk for developing CRC. Although screening rates remains low, early screening shows decrease in mortality of CRC. Objective: To determine the impact of physician counseling on raising the awareness of CRC patients and their relatives about the importance of early CRC screening. Method: A Cross-sectional study was performed on CRC patients and their relatives with a sample size of 104 patients and 30 patient's relatives. Data was collected through a telephone – interview and using a validated questionnaire, visits to the oncology division and the surgical department. Results**:** 104 CRC patients and 30 relatives were included. 22 patients (21.2%) received counseling by the physician and 82 patients (78.8%) were not.25 patients (24%) counseled their relatives. 67% of CRC patients did think it is important to counsel their relatives and 40% of the relatives did not think it is important to proceed with CRC screening. Conclusion: This study demonstrates the role of physician counseling in patient awareness of the risk of CRC among their relatives. Therefore, improving physician's counseling skills is greatly needed in our community to improve the early detection of CRC among the relatives of CRC patient in Saudi Arabia.

Key words: colorectal cancer, counseling, screening

Abbreviations: CRC- colorectal cancer**,** FOBT- Fecal occult blood test.

1. INTRODUCTION

Colorectal cancer (CRC) has become a major health concern. Worldwide, the incidence of CRC was fourth among male and third among female in 2002, and the prevalence was second after breast cancer with an approximate 2.8 million (Parkin et al., 2005).Where in Gulf Cooperation Council, CRC was the second most common cancer during a 10-year period from 1998 to 2006(Al-Madouj, et al., 2007).In the Kingdom of Saudi Arabia (KSA), they were 1033 cases in 2010; CRC was rated first in male and third among female, while Riyadh, capital of KSA, the highest incidence region was reported(Saudi Cancer Report 2010).

The U.S. Preventive Services Task Force recommends colorectal cancer screening with a high-sensitivity fecal occult blood testing (FOBT), a sigmoidoscopy or a colonoscopy beginning at age 50 years (U.S. Preventive Services Task Force, 2008).

There are different types of colorectal cancer, the most common of them is sporadic, while familial and hereditary cancers account approximately 15-20 % from all CRCs (Salemink et al., 2013). Among patients diagnosed with hereditary CRC syndrome, physician's counseling and explanation of the risk among his/her relatives with a recommendation for early screening and appropriate genetic tests is advisable (Lynch et al., 2003). Therefore, individuals with a positive family history should begin screening at an earlier age as per international guidelines (Riley et al., 2012).

National Society of Genetic Counselors defined counseling as assisting people to perceive and adapt to the medical, psychological and familial implications of genetic contributions to the disease (Fenton et al., 2011).Counseling is a physician-patient session; however, patient's family members can be included (Lynch et al., 2001).Hence, it is one of the most important predictors of screening (Gilbert et al., 2005).

Several studies were conducted regarding physician counseling and screening. One study used data from 2000 National Surveys showed inadequate counseling, lack of awareness and information about colorectal cancer. Counseling correlates with a reduction in CRC screening (Wee et al., 2005). While in California, a prospective cohort

© 2016 Discovery Publication. All Rights Reserved

study showed the relation between physician counseling and the impact on patient's beliefs and behaviors and found that counseling by a physician can increase the patient's perception (Fenton et al., 2011).

In 2014, a cross-sectional study through a telephone survey determined the relationship between physician counseling and colorectal cancer screening among Latino patients; the result was 46% have done endoscopy (with or without FOBT), 13 % preformed FOBT only, and 41 % no colorectal cancer screening (Nápoles et al .,2015). In 2016, an interventional cohort study on a sample size of 1945 patients concluded counseling patients through the telephone to promote colorectal cancer screening might increase their adherence to screening. (Luckmann et al 2013)

Little information is known about how many of the patient relatives actually do receive recommendation through the patient him/herself. Based on our knowledge, no study has been done in KSA on the effectiveness of physician counseling on patient's relatives. The purpose of this research is to determine the impact of physician counseling on CRC patient by raising awareness about the importance of CRC screening and to convince patient's relative on performing CRC screening.

2. MATERIALS AND METHODS

The study was approved by the Institutional Review Board (IRB) of King Abdulaziz University (KAU). A Cross sectional study was conducted in 2016 involving CRC patients and their relatives at King Abdulaziz University Hospital (KAUH), Department of Medicine, Jeddah, Saudi Arabia.

The target sample was 200; 100 of them were patients and the other were relatives; the actual sample size was 104 patients and 30 relatives. We studied patients who were diagnosed with CRC at KAUH between the year 2000-2016, while those who were being treated in other hospitals, before the year 2000 and patients diagnosed with other types of cancer were excluded. Consent was obtained before collecting any data either through telephone interview or upon meeting the patient physically. Data was collected through a telephone survey, and by interviewing patients in the oncology division and the surgical department. Using a modified National Institute Health Survey in two forms; one for patients, the other for relatives. The modifications of questions were as follow; in the patient's survey: Did your doctor counsel you regarding the genetic predisposition of cancer? A)Yes B)No. Have you advised your family member to seek early colorectal cancer screening? A) Yes B) No. In the consenting relative's survey: How confident are you that you could get advice of information about cancer if you need it? A)Completely confident B)very confidant C)somewhat confidant D)a little confidant E) not confidant at all.

We predicted facing some limitation in data collection such as, the patient's phone number being disconnected or has been changed, refusal to answer the questionnaire and of those who are deceased.

Data analysis was conducted by Statistical Package for Social Science Software (SPSS Version 21), Chi-square Test and *t*-test, were used. By using Chi-square test, we examined the impact of physician counseling on CRC patients to convince and advice their relatives on the importance of CRC screening.

3. RESULTS

The purpose of this research is to determine the impact of physician's counseling on CRC patients at King Abdulaziz University Hospital Jeddah and to raise the awareness and the importance of CRC screening, and to convince his/her relative on performing CRC screening.

Total of 104 patients and 30 patient's relatives were approached for the study. Among the patients, 57 males (54.8%) and 47 females (45.2%) with mean age of the sample being 56 years old (±11.24 SD). The mean age for patient relative's cohort was 42 years (±11.56 SD) of which 17 male (56.6%) and 13 female (43.4 %).

The mean age for patients was 56 years for males (± 10.98 SD), 55 years for female (± 11.63 SD). However, the mean age for the relatives was 43 years (± 10.61 SD) for males, 40 years (± 13.64 SD) for females. (Table1)

© 2016 Discovery Publication. All Rights Reserved

The total number of CRC patients and their relatives was 104 and 30, respectively. Among CRC patients, 22 patients (21.2%) were counseled by their physician while 82 patients (78.8%) were not. 25 patients (24%) with CRC counseled their relatives. The number of male patients who had counseled their relatives is slightly higher than female. (Table 2).

Table 1

Patient and Relative mean age

Gender	Patient mean Age	Relative mean Age
Male	56 Years (± 10.98 SD)	43 Years (± 10.61 SD)
Female	55 Years (± 11.63 SD)	40 Years (± 13.64 SD)

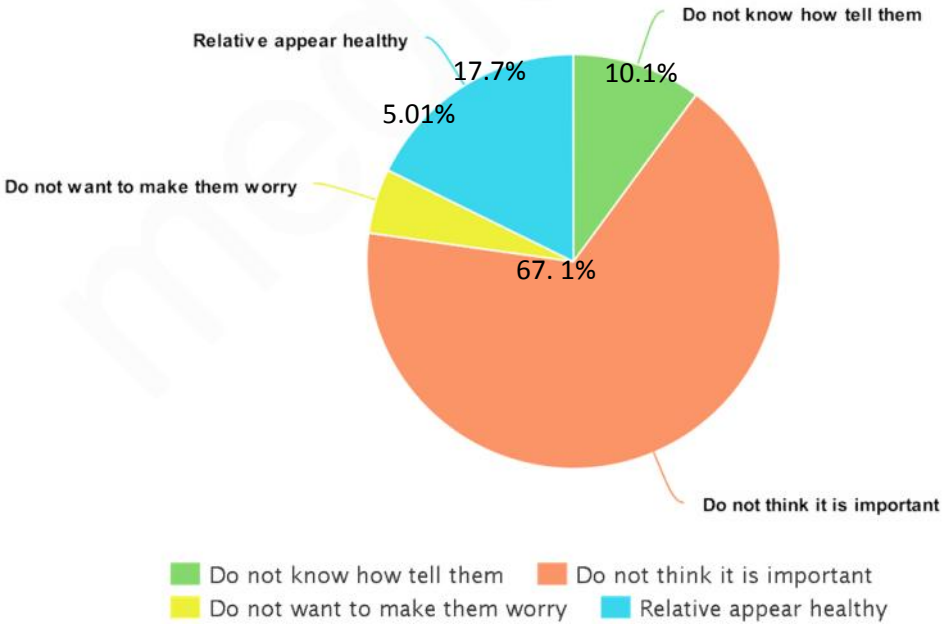
Table 2

Counseling on CRC patients and relatives per gender

	Patient Counseled by Physician	Patient who had counsel their relatives
Male	12 (11.5%)	13 (12.5%)
Female	10 (9.6%)	12 (11.5%)
Total	22 (21.2%)	25 (24%)

Graph 1

Reason for patients not to inform their Relatives about CRC screening



Alkhayyat et al.
Effectiveness of Colorectal Cancer Counseling on Patients and their Relatives in Saudi Arabia, single Institution,
Medical Science, 2016, 20(82), 201-207,
www.discoveryjournals.com

© 2016 Discovery Publication. All Rights Reserved

Among the 104 CRC patients, only 25 patients (24%) advised their relatives to perform early screening for CRC. There were multiple reasons for 79 CRC patients (76%)that did advise their relatives. The questionnaire addressed these reasons. 53 patients (67.1%) of the patients thought it is not important, approximately 14 patients (17.7%) answered relatives appear healthy, 8 patients (10.1%) did not know how to tell them and the remaining 4 patients (5.01%) were afraid to tell them as they did not want them to worry. (Graph: 1)

Table 3

Reasons for relatives not performing CRC screening

Reasons	Percentages
Don't have access to a health center or Hospital	18.1%
Don't think it's important	40.9%
Don't know	9.1%
Other	31.8%
Afraid	0

Among CRC patient's relative, 8 patients (26.6%) performed early screening for CRC. 22 patients (73.4%) did not perform any screening. For these 22 relatives that did not perform screening. 9 relatives (40.9%) did not think it is important, 4 relatives (18.1 %) did not have access to a health care center or hospital. While 7 relatives (31.8%) choose "other" which included; feels healthy with no symptoms (3 relatives), believe they are too young (2 relatives), were too busy with life (2 relatives). 2 relatives (9.1 %) did not have a reason. No relative chose the reason being afraid. (Table 3)

For the 8 relatives that completed CRC screening, the most common cause; they had a relative with CRC (5 of 8 relatives- 62.5%). However,2 relatives (25%) chose the reason; they received an advice from relatives and 1 relative (12.50%) had other reasons to seek CRC screening.

A *t*-test was done for statistical bias and the results show no statistical difference between the patients who had counseled their relatives and the patient age and gender. There is no relation between patient's counseled their relatives and relatives confident to get advice from physicians about CRC. Also, there is no relation between the gender of patients and patients who had counseled their relatives.

4. DISCUSSION

The purpose of this research is to determine the impact of physician's counseling on CRC patient by raising awareness about the importance of CRC screening and to convince his/her relative on performing CRC screening. Based on our knowledge, this is the first study conducted in Saudi Arabia to evaluate this relation.

This study finds a relation between physicians' counseling about familial risk for CRC, and patient's convincing and advising their relatives to seek CRC screening. Familial CRC risks divided into three categories which are average (below 10%), moderate (10-15%) and high (more than 15 %) based on cumulative lifetime risks. For patients with a high familial CRC risk, referral for genetic counseling is recommended (Salemink et al., 2013). This was demonstrated in a previous study done in Netherland, where, genetic counseling on hereditary CRC, familial colorectal cancer risk was the most important counseling topic to be discussed with patients (Salemink et al., 2013).

© 2016 Discovery Publication. All Rights Reserved

Our present study shows that 78% of the patients did not receive counseling; hence, they do not know the risk of CRC among their relatives. This percentage is higher than previous study done in Germany thatshowed44% of all patients do not know about the high risk of CRC among their relatives (Ruthotto et al., 2007). This might indicate the lack of awareness and poorly educated status of patients in our community. Also, this difference may be due to the lack of physician's awareness of the importance of counseling, or how to properly convey important information to patients in a relatively short amount of time.

Relatives of CRC patients did seek for early screening for CRC as 73% of them did seek for early screening. Limited access to screening program would help to improve this partial. Increasing public awareness on familial and genetic CRC through will help to encourage those relatives to seek for early screening.

Only one patient reported of not informing his relatives of his CRC diagnosis in this result. This may indicate the poor family relationship which were major reasons for low CRC screening rate reported in a previous study (Ruthotto et al.,2007). Thus, suggesting a possible difference in the Saudi culture compared to the other past researches.

The results show that physician counseling is a major barrier behind CRC patient's relative awareness and knowledge of the high risk exposure of the disease. Many studies found that physician recommendation for the screening is the main predictor for CRC diagnosis. However, on other studies, the reason for the low rate of CRC screening is due to "inadequate physician counseling" (Walsh et al.,2002; Lewis et al., 1996; Wee et al., 2005). Proportionate with our findings, the physician plays an initial role counseling for CRC screening.

Limitations faced in our study were several, the most important limitation is the sample size being small compared to our target. Whereas, some CRC patients were deceased, did not answer the call, disconnected or wrong number. Thereafter, we started visiting the Day Care Unit, Surgical and oncology departments, but unfortunately some patients refused to cooperate and participate in this study.

The sample in this study does not concern the educational level of the patients or their relatives, neither their economic status; therefore, in further studies, we recommend asking about the education level, if they have health insurance or not and their economic status.

5. CONCLUSION

This study establishes that physician counseling is an important method in spreading awareness regarding the high risk of CRC for patients and their relatives. Therefore, we need to stress on the importance of physician counseling and the need of continuous counseling programs and services to improve physician's skills with constant evaluation. Additionally, public awareness about genetic risk for developing CRC among relatives of CRC is essential and must encouraged through governmental authorities for screening this high risk group.

Future researches should expand the sample size and evaluate the effectiveness of existing counseling programs. Other factors that can influence CRC screening such as screening fees, economic status, educational status and healthcare accessibly should be considered in future studies.

SUMMARY OF RESEARCH

This research identifies a major defect in counseling colorectal cancer patients about the familial risk and the need for early detection of CRC.

DISCLOSURE STATEMENT

There is no financial support for this research and no conflict of interest.

ACKNOWLEDGEMENT

I highly appreciate the work of medical students in project.

© 2016 Discovery Publication. All Rights Reserved

REFERENCES

1. Parkin DM, Bray F, Ferlay J, Pisani P. Global cancer statistics, *a cancer journal for clinicians*, 2005, 55, 74–108.
2. Al-Madouj AN, Eldali A, Al-Zahrani AS. Cancer Incidence Report of the Cooperation Council States, 1998-2007.
3. Saudi Cancer Registry. Saudi Arabia Cancer Incidence Report 2010, (2014), http://ghdx.healthdata.org/record/saudi-arabia-cancer-incidence-report-2010.
4. U.S. Preventive Services Task Force. Screening for Colorectal Cancer: U.S. Preventive Services Task Force Recommendation Statement, *Annals of Internal Medicine*, 2008, 149, 627-637.
5. Salemink S, Dekker N, Kets CM, Looij EV, Zelst-stams WV. Focusing on Patient Needs and Preferences May Improve Genetic Counseling for Colorectal Cancer, *Journal of Genetic Counseling*, 2013, 22, 118-124.
6. Lynch HT, de la Chapelle A. Hereditary colorectal cancer. *New England Journal of Medicine,* 2003, 348, 919–32.
7. Riley BD, Culver JO, Skrzynia C. Essential elements of genetic cancer risk assessment, counseling, and testing: updated recommendations of the National Society of Genetic Counselors,*Journal of genetic counseling* ,2012, 21, 151-61.
8. Fenton JJ, Jerant AF, Von Friederichs-Fitzwater MM. Physician Counseling for Colorectal Cancer Screening: Impact on Patient Attitudes, Beliefs, and Behavior, Journal of *the American Board of Family Medicine*, 2011, 24, 673-81.
9. Lynch HT. Family information service and hereditary cancer, *Cancer* 2001, 91, 625- 8.
10. Gilbert A, Kanarek N. Colorectal cancer screening: physician recommendation is influential advice to Marylanders, *Preventive Medicine*, 2005, 41, 367–79.
11. Wee CC, McCarthy EP, Philips RS. Factors associated with colon cancer screening: the role of patient factors and physician counseling. *Preventive Medicine*, 2005, 41, 23–29.
12. Nápoles AM, Santoyo-Olsson j, Stewart AL, Olmstead J, Gregorich SE, Farren G, Cabral R, Freudman A, Pérez-Stable EJ. Physician Counseling on Colorectal Cancer Screening and Receipt of Screening among Latino Patients, *Journal of general internal medicine*, 2015, 30, 483-9
13. Luckmann R.Costanza ME, Rosal M, White MJ, Cranos C. Referring Patients for Telephone Counseling to Promote Colorectal Cancer Screening, *The American Journal of Managed care*, 2013, 19, 702-8.
14. Ruthotto F, Papendorf F, Wegener G,Unger G, Dlugosch B, Korangy F, Manns MP,Greten TF. Participation in screening colonoscopy in first-degree relatives from patients with colorectal cancer,*Annals of Oncology*,2007, 18, 1518-22
15. Koehly LM, Peterson SK, Watts BG, Kempf KK, Vernon SW, GritZ ER. A social network analysis of nonpolyposis colorectal cancer genetic testing and family functioning, *Cancer Epidemiology Biomarkers & Prevention*, 2003, 12, 304–313.
16. Walsh JM, Posner SF, Perez-Stable EJ.Colon cancer screening in the ambulatory setting, *Preventive Medicine*, 2002, 35, 209–18.
17. Lewis SF, Jensen NM. Screening sigmoidoscopy: factors associated with utilization, *Journal of General Internal Medicine*, 1996, 11, 542–4.

Alkhayyat et al.
Effectiveness of Colorectal Cancer Counseling on Patients and their Relatives in Saudi Arabia, single Institution,
Medical Science, 2016, 20(82), 201-207,
www.discoveryjournals.com

© 2016 Discovery Publication. All Rights Reserved