

Using The Health Belief Model To Predict Teachers' Self-Efficacy For Colorectal Cancer Screening

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Abstract

Study Design: A descriptive predictive design was used to guide this study.

Setting: The study was conducted in secondary schools in Kirkuk City.

Sample: The study included a convenience sample of 397 secondary school teachers.

Study Instrument: The study instrument includes sociodemographic sheet. It also includes the Health Beliefs Scale for Colorectal Cancer Screening.

Data Collection: Data were collected using an online google form for the period from March 6th, 2021 to April 10th, 2021.

Data Analyses: Data were analyzed using the statistical package for social science, version 26.

Study Results: The study results revealed that there are statistically significant positive associations between participants' body mass index, Perceived Susceptibility, Perceived Benefits, and their Self-Efficacy for performing colorectal screening. On the other hand, there is a statistically significant inverse associations between participants Perceived Barriers and their Self-Efficacy for performing colorectal screening.

Conclusion: The greater the body mass index, the greater the Self-Efficacy for performing colorectal screening. The greater the Perceived Susceptibility, the greater the Self-Efficacy for performing colorectal screening. The greater the Perceived Benefits, the greater the Self-Efficacy for performing colorectal screening.

Keywords: Colorectal Cancer Screening; Health Belief

Introduction

Cancer is now considered the second leading cause of mortality throughout the world. One of the most common and lethal cancers is of Colorectal Cancer (CRC). About one million new cases of CRC are diagnosed every year around the world and nearly half of them lose their lives due to this disease. CRC is the third most common cancer in men (10 percent of all cancer cases) after lung and prostate and is the second most common cancer in women (4.9 percent of all cancer cases) after breast cancer in the world (Jeihooni, 2017). Colorectal cancer is the commonest malignancy in the gastrointestinal tract and the third leading cause of cancer associated death in the world. Usually, CRC is thought as a common disease affecting old people, with most cases diagnosed during the 5th and 6th decades and a higher prevalence among men (Campos et al., 2017).

During the past decades, there is a trend in decreasing the incidence of CRC in older people with an opposite effect among adolescents and young adults (Fancher et al., 2011), a change that has been attributed to an inadequate screening and lifestyle risk factors related to obesity and diet profile (Hubbard & Grothey, 2013). The overall crude incidence of colorectal cancer increased in most European countries over the last decade. The annual increase ranged in different countries between 0.4% and 3.6%. The recent introduction of CRC screening in most European countries will likely reverse this trend. These screening programs typically target subjects aged 50 years and above. In several parts of the world, the CRC incidence has also risen in individuals below 50 years of age. In the USA, the incidence of colon cancer increased since 1974 with 1.0%–2.4% annually and the incidence of rectal cancer with 3.2% (Vuik et al., 2019).

In the worldwide, nearly 800,000 new CRC cases occur each year, comprising 10% of all cancer malignancies with nearly 450,000 cases mortality annually. Totally, CRC is the fourth commonest form of cancer occurring worldwide. Furthermore, cancer incidence data and death rate in Asian countries may be underestimated (Tahmasebi et al., 2016).

In recent years, alterations in diet, sedentary lifestyles, and the rising prevalence of obesity have been hypothesized to impact molecular and physiological characteristics influencing the risk of CRCs and other cancer types in younger populations. Additional insights into the clinicopathology and speculated etiology and risk factors of early-onset colorectal cancers have been comprehensively reviewed (Loomans-Kropp & Umar, 2019).

The study aims to identify the Health Belief Model-based factors that can predict teachers' Self-Efficacy for performing colorectal cancer screening.

Materials and Methods

Study Design

A descriptive predictive design will be used to guide this study.

Setting:

The study was carried out at secondary school in Kirkuk directorate of education. The study subjects were recruited from 10 schools.

Sample and Sampling: A non-probability convenience sample of (397) students who are enrolled in the aforementioned colleges based on a margin of error of 5%, confidence level of 95%, a population size of 18,000, and response distribution of 50%, the recommended sample size is 377, the final size is 400.

Measures: The study instrument is composed of teachers' sociodemographic sheet (age, gender, marital status, residency, educational qualification, and family's monthly income). It also included the Health Beliefs Scale for Colorectal Cancer Screening which was originally developed by Champion in 1993 and revised in 1997 and 1999 to assess beliefs towards breast cancer screening. It contains 61 items with 8 subscales. This scale includes 36 items that assess health beliefs for colorectal cancer screening. These items are distributed into six subscales; Perceived Susceptibility (5 items), Perceived Seriousness (7 items), Perceived Benefits (6 items), Perceived Barriers (6 items), Health Motivation (7 items) and Confidence (5 items). Items were formatted with a 5-point Likert scale, from 1 (strongly disagree) to 5 (strongly agree).

The Health Beliefs Scale for Colorectal Cancer Screening has demonstrated a high internal consistency reliability where the Cronbach's alpha was 0.9033 (Champion, 1999). The Health Beliefs Scale for Colorectal Cancer Screening – Arabic version has demonstrated good internal consistency reliability where the Cronbach's alpha value for Perceived Susceptibility, Perceived Seriousness, Perceived Benefits, Perceived Barriers, Health Motivation, and Confidence were 0.95, 0.96, 0.94, 0.92, 0.90 respectively (Abd Ali, n.d.). The Health Beliefs Scale for Colorectal Cancer Screening has demonstrated good content validity and concurrent validity (Abd Ali, n.d.).

Data Collection: Data were collected from the period from March 6th, 2021 to April 10th, 2021.

Data Analyses: The data was analyzed by using IBM statistical package for social sciences (SPSS) for Windows, version 26, Chicago, IL.

Results and Discussion

The mean age is 40.14 ± 6.57 ; most age 35-43-years ($n = 308$; 77.6%), followed by those who age 44-52-years ($n = 56$; 14.1%), and those who age 53-62-years ($n = 33$; 8.3%). Concerning gender, most are females ($n = 257$; 64.7%) compared to males ($n = 140$; 35.3%). Regarding marital status, most are married ($n = 287$; 72.3%), followed by those who are Widows/Widowers ($n = 65$; 16.4%), those who are divorced ($n = 30$; 7.5%), and those who are not married ($n = 15$; 3.8%).

Table 1. Participants' sociodemographic characteristics (N = 397)

Variable	Frequency	Percent
Age (Years): Mean (SD) = 40.14 ± 6.57		
35-43	308	77.6
44-52	56	14.1
53-62	33	8.3
Gender		
Male	140	35.3
Female	257	64.7
Marital Status		
Not married	15	3.8
Married	287	72.3
Divorced	30	7.5
Widow/Widower	65	16.4
Educational Qualification		
Bachelor's Degree	262	66.0
Master's Degree	17	4.3
Doctoral Degree	118	29.7
Family' monthly income (Iraqi Dinar)		
300.000 – 600.000	48	12.1
601.000 – 900.000	158	39.8
901.000 – 1.200.000	100	25.2
1.201.000 – 1.500.000	31	7.8
≥ 1.501.000	60	15.1

There are statistically significant positive associations between participants' body mass index, Perceived Susceptibility, Perceived Benefits, and their Self-Efficacy for performing colorectal screening (p-value = .001, .000, .000) respectively. On the other hand, there is a statistically significant inverse associations between participants Perceived Barriers and their Self-Efficacy for performing colorectal screening (p-value = .033).

Table 2. Association between participants' age, years of employment, BMI, Perceived Barriers, Perceived Susceptibility, Perceived Benefits, and their Self-Efficacy for performing colorectal examination

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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	B	Std. Error	Beta		
Age	.037	.043	.081	.874	.383
Years of employment	-.099	.055	-.166	-1.796	.073
BMI	.155	.045	.158	3.445	.001
Perceived Barriers	-.046	.022	-.093	-2.117	.033
Perceived Susceptibility	.126	.029	.201	4.338	.000
Perceived Benefits	.466	.050	.426	9.404	.000

Discussion

This descriptive predictive study aimed to identify factors that predict secondary school teachers' Self-Efficacy for performing colorectal cancer screening. There was a statistically significant positive association between participants' body mass index and their Self-Efficacy for performing colorectal screening. This finding could be explained as subjects who have overweight and/or obesity could believe more in their susceptibility of contracting colorectal cancer. So, they demonstrated greater confidence in performing colorectal cancer screening. This finding goes in line with that Anderson et al. (2014) who concluded that Differences between there was a significant difference in colorectal cancer screening uptake between the groups of waist circumference and body mass index. There was a statistically significant positive association between participants' Perceived Susceptibility and their Self-Efficacy for performing colorectal screening. This finding could be explained as subjects who perceive that they are highly susceptible to contract colorectal cancer can have greater Self-Efficacy for colorectal cancer screening uptake. This finding is supported by He et al., (2020) who stated that subjects with higher Perceived Susceptibility to CRC would be more likely to attend colonoscopy.

There was a statistically significant positive association between participants' Perceived Benefits and their Self-Efficacy for performing colorectal screening. This finding could be explained as subjects who believe that performing colorectal cancer screening can benefit them either in colorectal cancer prevention or its early detection have better colorectal cancer uptake. This finding goes in line with that of He et al., (2020) who concluded that subjects with higher perceived Benefits of CRC would be more likely to attend colonoscopy.

On the other hand, there was a statistically significant inverse associations between participants' Perceived Barriers and their Self-Efficacy for performing colorectal screening. This finding could be explained as subjects who recognize noticeable obstacles to colorectal cancer screening would demonstrate poorer confidence to colorectal cancer uptake. Empirical evidence offered by Williams et al., (2018) displayed that subjects with fewer Perceived Barriers at 12-months reported a greater increase in colonoscopy screening at 12-months compared to those with higher Perceived Barriers.

Conclusion

The researcher concluded the following:

The greater the body mass index, the greater the Self-Efficacy for performing colorectal screening. The greater the Perceived Susceptibility, the greater the Self-Efficacy for performing colorectal screening. The greater the Perceived Benefits, the greater the Self-Efficacy for performing colorectal screening.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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