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The Effectiveness of Media Inclusiveness on the Breast Cancer Care Awareness Campaign: Evidence from North Cyprus

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Abstract

The issue of breast cancer has been a concern among the women around the globe, and Northern Cyprus is not an exception. In response to this, some studies argued for media campaign awareness as one of the strategies with a potential of enlighten and improve the understanding of women about the disease. However, the effectiveness of this strategy on the breast cancer care awareness in Northern Cyprus has not been conducted. Thus, this study investigates the effectiveness of media inclusiveness influence on the breast cancer care awareness campaign in Northern Cyprus. A structural questionnaire was used to collect data from 400 women across the five districts of Northern Cyprus. Percentage, ANOVA, and regression techniques were employed for the data analysis with the aid of SPSS version 23. The study found that a significant difference exists on the breast cancer care awareness campaign among the five districts in Northern Cyprus. Moreover, print media, social media, and interpersonal approach were found to have significant effects on breast cancer care awareness campaign. In addition, this study found the joint influence of print media, electronic media, social media, and interpersonal approach on the breast cancer care awareness in Northern Cyprus, and then suggested that media inclusiveness approach should be adopted by the health management agencies in North Cyprus, to address the prevalent breast cancer among its women.

Keywords: Breast cancer; Media inclusiveness; Awareness campaign; North Cyprus

Introduction

Most researchers agreed on media awareness campaigns to be a significant intervention in health communication (Kreps & Sivaram, 2009; Obono, 2011). This is owing to the myriads of communication methods and channels that could be deployed to improve on the knowledge and awareness of the people on the health challenges and interventions (Dejong, 2010; Odugbesan & Rjoub, 2019). Meanwhile, media awareness campaigns "are varies, multifaceted, highly planned and strategically assemble media symphonies designed to increase awareness, inform, or change behavior in target audiences (Day, 2011, p.79). Therefore, awareness campaigns through media are planned communication techniques which are tailored to suit a certain group with the aim of tackling diseases and health problems that bedeviling individuals in the society. This view corroborates the position of Dejong (2010) who posited that awareness campaign through media could as well be regarded as information campaign, which are deployed to call people's attention to some health challenges with the view of encouraging them to stay clear of the problems.

Several years back, the uses of media campaign towards the efforts of influencing several health behaviors among the people have been given much attention in the literature. Most of these campaigns have been targeted at ameliorating the use of tobacco, and some heart-related diseases prevention. However, according to Wakefield, Loken, and Hornik (2010), the campaign against the illicit use of drugs, sex-related behavior, cancer screening and behavior, child survival, and several other health-related issues were not left out. Specifically, the campaigns have put the messages in the media so as to enable a wider reach to the targeted audiences, through several media channel.

The issue of cancer for instance has become a global concern which it's believed to be very much

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part of modern life, its incidence is presently increasing in line with life expectancy (Djamgoz et al. 2017; Odugbesan & Rjoub, 2020; Rjoub et al. 2021). Howlader et al. (2013) observed that at present "one in three men and one in three women in the Western world are expected to be diagnosed with some form of cancer during his/her lifetime". According to Torre et al. (2016), approximately 14 million new cases and 8.2 million cancer-related death were estimated around the world in 2012, which the "World Health Organization" (WHO) estimated an increase of about 70% over the next 20 years. Among the forms of cancer, breast cancer is the most frequently diagnosed cancer in the world and the leading cause of cancer death in women around the world. This information from the WHO throws-up a concern that needs to be addressed. Though different forms of cancer exist, however, breast cancer is more prominent among women (Howlader et al. 2013). De Sanjose et al. (2012) and CSDH (2008) observed that breast cancer incidence and deaths happen often in developing countries. This was corroborated by the study of Torre et al. (2015) who posited that one-half of all breast cancer cases happen in low-income societies with about 62% global cancer deaths. For instance, the study of Gokyigit & Demirdamar (2016) found breast cancer to be the most frequent cancer among the women in North Cyprus. Thus, owing to the nature of cancer, there is need for an approach that will enhance the understanding of the women in North Cyprus (NC) on the breast cancer care. Goyigit & Demirdamar (2016) stressed further that breast cancer is mainly hereditary in NC, and as such women in NC needs to be sensitize and enlightened on the danger of breast cancer.

Northern Cyprus is considered to be a developing country, small, enclosed, and ideal for this research. The country has a typical western Mediterranean lifestyle, with conditions of living, and diets good enough for a good health (Martinez-Gonzales & Sanches-Villegas, 2004; Riboli & Norat, 2003). In this country, there is large concentration of Cadmium in the soil, which Gokyigit & Dmiirdamar (2016) posited could be the reason for high prevalent of breast cancer among the women in NC which corroborate the view of Akun et al. (2010) who concluded in their study that Cadmium has a triggering impact on the development of breast cancer. This revelation is an indication that the women in NC are likely to be prone to breast cancer and as such becomes imperative for more campaign. Though, Djamgoz et al. (2017) observed that the "average age of incidence" (AAI) for breast cancer in North Cyprus is lower than both North Europe (NE) and South Europe (SE), the study posited that the "age-standardized rate" (ASR) in NC could be underestimated which indicates that genuine breast cancer could occur at early age in NC in comparison to other part of Europe. Thus, the early campaign awareness against the breast cancers becomes imperative in North Cyprus. Some studies observed that the incidence and mortality associated with breast cancer are decreasing in the high-income countries, owing to the availability of mammogram screening, effective health services, and effective execution of breast cancer prevention campaign; the reverse is the case for low and middle-income countries (Colditz & Bohlke, 2014; Danladi & Serakinci, 2020; Lauby-Secretan et al. 2015; Youlden et al. 2012).

Okorie, Oyesomi, & Kayode (2014) opined in their study that the efficacy of using media awareness campaign to advocate breast cancer care recognizes the actual and potential responsibility of different forms of media. The study stressed that while mass media channels have the ability to get across and inform large number of number of people, the interpersonal channel which is also dubbed as traditional approach have proved to be more influential in motivating attitudinal change. In view of these, there is need to investigate the impact of media inclusiveness on the breast cancer awareness in North Cyprus.

This study investigates the impact of media inclusiveness on breast cancer care awareness among the women in North Cyprus. The target population comprised of women within the ages of 15 and above. The choice of the age group was based on the study of Djamgoz et al. (2017) who posited that the "age-standardized rate" (ASR) in NC could be underestimated which indicates that genuine breast cancer could occur at early age in NC in comparison to other part of Europe. In addition, this study focuses on the social media channel, electronic media, print media, and the interpersonal network. This is aimed at establishing the most effective among the channel in promoting breast cancer care in North Cyprus.

2. Theoretical Framework and Literature review

2.2 Theoretical framework

The agenda setting theory and framing theory was adopted for this study framework. Agenda setting theory has a main proposition that the media has the ability to transfer phenomena of significance from media agendas to public agenda and thus enable an impact on the people's view on what should constitute the main issue of the moment (Folarin, 1998; Ogbuoshi, 2011),

Therefore, Kalu (2010) posited that the media has the capacity to make cancer preventive/curative programme a public agenda through its content. The people's interest gets stimulated through the idea of framing (the framing theory). According to Asemah (2011), an events and issues are being organized and presented by the media in a manner that the audience decipher what it connotes. In this case, the manner at which a phenomenon is presented (the frame) does have impact on the choices people makes. This goes further to influence people's beliefs, attitude, and behavior, owing to the fact that it has connection with a particular meaning or interpretation to a certain phenomenon. In this study, the media connects the meaning and consequences of breast cancer, and associated preventive practices to women mortality and present it to the women in the area under study. These two theories provide framework adopted in this study for the investigation of the effectiveness of media inclusiveness on the cancer care awareness campaign among the women in North Cyprus.

2.2 Brief literature review

According to Jemal et al. (2011) and Dey et al. (2015), breast cancer (BC) was acknowledged as one of the common cancers in women around the world with the estimation of about 23% of all cancer cases. Torre et al. (2016) observed that the global case of BC is on increase with about 20%, while the mortality has increased by 14% since 2008. This position corroborates some studies who observed that BC is the most frequently diagnosed cancer among women in 140 of 180 countries globally (Dey et al. 2015; Ferlay et al. 2013). Ferlay et al. (2013) opined that the record of GLOBOCAN 2012 revealed striking patterns of cancer in women which calls for a priority attention to be given to the prevention and control measures around the world. The study stressed further that the incidence of BC has been on increase in some regions around the world, however, a significant difference is observed between the developed and developing countries (Ferlat et al. 2013). According to Benson and Jatoi (2012), the increase in the incidence of BC in the developing countries is owing to the sharp changes in reproductive factors, lifestyle, and increased life expectancy, while some studies believe it is the outcome of the availability of mammogram screening, effective health services, and effective execution of breast cancer prevention campaign (Adebayo et al. 2020; Colditz & Bohlke, 2014; Danladi & Serakinci, 2020; Lauby-Secretan et al. 2015).

Studies have revealed that only minority of women in developing countries have the adequate knowledge or carry out regular breast self-examination (Gokyigit & De

mirdamar, 2016; Karadag et al. 2014; Radi, 2013; Wu et al. 2012; Yoo et al. 2012). Sreedevi et al. (2014) and Wu et al. (2012) attribute the low rate of breast self-examination in most of developing countries to unwillingness to undergo screening sometimes, with the fear of knowing that they have BC. In addition, the inadequate knowledge on how to carry out the breast self-examination, and understanding of what to do if a lump is found in their breast. Owing to the high and increasing burden of breast cancer which often occur due to late detection of breast cancer, some studies suggested that early detection and subsequent treatment, and awareness of breast cancer and breast self-examination could be an effective strategy to combat the disease and ensure long-term survival (Dey et al. 2015; Gokyigit & Demirdamar, 2016; Nelson and Salawu, 2016; Norsa'adah et al. 2012; Serey et al. 2011; Wogu et al. 2019).

Some empirical studies have revealed a poor knowledge of breast cancer among some women in developing countries (Okobia et al. 2006; Oluwatosin & Oladepo, 2006; Wogu et al. 2019). Meanwhile, some studies argued that in the sphere of managing human health, sources of information and campaign programmes are important for health promotion (Kreps & Sivaram, 2009; Lee, 2010; Leask et al. 2010; Nelson & Salawu, 2016; Okorie et al. 2014; Rjoub et al. 2021). This is because in reference to Day (2011, p.79), media campaign programmes "are varied, multifaceted, highly planned and strategically assembled media symphonies designed to increase awareness, inform, or change behavior in target audience". The campaigns are programmed to suit the behavior and environment of target audience with the aim of addressing the diseases and health issues, and are significant in motivating change in attitudes. The study of Kreps & Sivaram (2009) acknowledged the efficacy of mass media channels in the campaigns to promote breast cancer care and prevention. This was evident in the study of Irurhe et al. (2012) who conducted a study in Nigeria among female secondary students and found that about 97% of the respondents heard about breast cancer through media. Nelson and Salawu (2016) study in Nigeria examined the impact of media awareness campaigns on breast cancer care among women in South West Nigeria. The findings from the study indicates that a significance difference in the level

of knowledge about breast cancer among the women in South-West Nigeria states, while a significance difference in the sources of awareness among the women in the South West Nigeria states was established. Similarly, Wogu et al. (2019) investigates influence of media breast cancer awareness campaign towards breast cancer in the Southern part of Nigeria is deficient in terms of scope, reach, and content, thus suggested that a modification of media contents, and campaign programmes together with government assistance.

Available empirical studies shows that most of the research on cancer in low and middle-income countries (LMICs) are related to treatment with miniscule amount devoted to breast cancer prevention, awareness, and early detection (Dey et al. 2015; Lodge & Corbex, 2011), especially in North Cyprus. Some notable studies on cancer in North Cyprus are basically on the cancer overview (Djamgoz et al. 2017); incidence of cancer (Pervaiz et al. 2017); risk factor assessment of breast cancer (Pervaiz et al. 2018); and epidemiology and cost treatment of cancer (Gokyigit & Demirdamar, 2016). Whereas, Dey et al. (2015) advocates that the awareness on the breast cancer care should be increased through the use of community outreach and the media. In light of the above, this study fulfills the gaps by formulating the following hypotheses for a better understanding of the effectiveness of media inclusiveness on the breast cancer care awareness.

H1: There is a significant difference of the breast cancer care awareness among the women in the five districts of Northern Cyprus

H2: There is a significant difference of the breast cancer care awareness among the women age groups

H3: There is a significant effect of (a) print media (b) electronic media (c) social media, and (d) interpersonal approach on breast cancer care awareness among women in Northern Cyprus.

Materials and Method

This study covers the major five (5) districts in Northern Cyprus namely: Lefkosa, Magusa, Girne, Gulzeyurt, and Iskele. In reference to the nature of breast cancer which considers it to be a life experience, a cross-sectional survey was adopted, and deployed the use of structured questionnaire for the data collection. The items in the structured questionnaire were adapted from the studies of Nelson and Salawu (2016), and Wogu et al. (2019); modified to suit the objectives of this study. Moreover, five-point likert scale was adopted for the structured questionnaire. In addition to the primary data that was sourced through the questionnaire, the information for the literature review was sourced from articles published in reputable journals. In the data collection through questionnaire, the questionnaires were distributed among the five districts in respect to their proportion of population women aged 15 and above. In doing so, the sample units in each of the district were selected through random selection of the houses on each street, and then seek the consent of the woman who falls into the category of age under consideration. In total, 400 questionnaires were able to be administered and retrieved. The survey was conducted between the month of January 2020 and August 2020. Meanwhile, in order to ensure a clear understanding of the subject by the women in respect of language issue, the questionnaire that was prepared in English language was translated to Turkish language by a language translator expert. Subsequently, another expert was employed to translate the translated copy from English to Turkish language back to English, after which the necessary adjustment was made and certified fit for distribution. Subsequent to the data collection, a pre-test analysis was carried out on the data to ensure the items and construct reliability. The socio-demographic characteristics of the respondents as presented in Table 1 shows that 8% of the respondents are between the ages of 15-25 years, 23.5% are 26-35 years, 5% are 36-45 years, 32.5% are 46-55 years, while 30.5% are above 55 years old. In respect of the questionnaire distribution among the districts, 13%, 20.5%, 24.8%, 21.3%, and 20.5% of the questionnaire were distributed in Gazimagusa, Lefkosa, Guzelyurt, Iskele, and Girne respectively. As for the educational background of the respondents, about 47% of the them are Bachelor degree holder, 29.3% have master degree, 15.4% have high school certificate or less, while about 8.3% are Ph. D holders. The factor analysis was employed to examine the convergent validity of the items, while the reliability of the construct was done using Cronbach alpha to ensure that the constructs have acceptable reliability.

The results from the pre-test analysis as presented in Table 2 indicates that all the items have a loading value between 0.619 and 0.958, which is above the recommended threshold of 0.4 (Hair et al. 2010; Hair et al. 2019), thus, it's safe to conclude that our items have an acceptable convergent validity. Similarly, as reveals in Table 1, each of the constructs has a Cronbach alpha value that is above the recommended threshold of 0.7

(Dijkstra & Henseler, 2015), therefore, the construct in this study has an acceptable reliability. The data subsequently found reliable was analyzed using frequency, percentages, "Analysis of Variance" (ANOVA), and regression with the aid of SPSS, version 23.0.

Results and Discussion

An analysis of the general health condition of the respondents was examined, and the result as presented in Table 3 shows that 25% of the respondents rated their health condition to be excellent, 43.3% of them considered their health condition to be very good, while 22.5%, 5.2%, and 4% of the respondents considered their health condition to be good, fair, and poor respectively. The respondents were also asked if they have ever had any cancer experience, the result indicates that 17.8% of the respondents have no personal experience, 60.5% have a relative that had suffered or suffering from cancer, while 21.8% of the respondents claimed to be a cancer survivor. This study probed further to know if the respondents know anyone with breast cancer, the result shows that large number of the respondents (52.5%) are in affirmative, while 47.5% do not know anyone with cancer. This finding is consistent with the study of Gokyigit and Demirdamar (2016) who claimed that breast cancer is the most prevalent cancer among women in Northern Cyprus, and stressed further it could be so because breast cancer is hereditary in Northern Cyprus. Moreover, result reveals that 54% of the respondents have been diagnosed with breast cancer, while 46% of them have not. This finding also lends credence to the fact that breast cancer is a challenge among women in Northern Cyprus. In addition, accessibility of the respondents to breast cancer awareness among the women was investigated, and the finding reveals that about 45.3% of the respondents have not been present at breast cancer campaign awareness within their locality, while 63.5% of them claimed not to be aware of any breast campaign awareness. This is an indication of inadequacies of campaign awareness in the North Cyprus among the women.

In order to examine the hypotheses 1 and 2 of this study, an analysis of variance technique was employed with the aid of SPSS. Hypothesis 1 was to investigate if there is significance difference in the breast cancer care awareness among the women in the five districts of Northern Cyprus. The result as presented in Table 4 shows a significance difference in the awareness campaign among the district with the f value of 4.711 which is statistically significant at less than 1% confidence level. Therefore, hypothesis 1 is accepted and conclude that a significance difference exists in the breast cancer care awareness among the five districts in Northern Cyprus (Gazimagusa, Lefkosa, Girne, Guzelyurt, and Girne). Since there is evidence of significance of difference on the breast cancer care awareness among the district, there is need to carry out a Post Hoc Test to determine which of the district shows a mean difference. The result as presented in Table 5 shows that Gazimagusa has a mean difference with Lefkosa and Guzelyurt with a mean difference of -.419 and -.592 respectively. While the mean difference between Gazimagusa and Lefkosa is significant at less than 5% confidence level, the mean difference between Gazimagusa and Guzelyurt is significant at less than 1% confidence level. The finding is an indication that the breast cancer care awareness is more pronounced in Gazimagusa than every other district.

Meanwhile, the result for the hypothesis 2 which was to examine if there is significant difference among the women age group in respect of the breast cancer care awareness shows no significant different, due to the p-value that is greater than 0.05. Thus, we failed to accept the hypothesis, and conclude that the difference of the breast cancer care awareness among the women age group in Northern Cyprus is not statistically significant.

Moreover, this study formulated a hypothesis (3a-d) to examine the impact of different channels of media on the breast cancer care awareness in Northern Cyprus. The result as summarized and presented in Table 6 reveal that print media, social media, and interpersonal channel have a significant influence on breast cancer care awareness, while electronic media shows no significant. Therefore, we accept hypotheses 3a, 3c, and 3d, and conclude that print media, social media, and interpersonal channel have significant effect on the breast cancer care awareness among the women in Northern Cyprus. The joint contribution of all the approach was examined and the result as presented in Table 6 shows an f-value (157.589) with a p-value (.000) that is less than 5% confidence level is an indication that the print media, electronic media, social media, and interpersonal approach have a joint effect on the breast cancer care among the women in Northern Cyprus. In addition, the fitness of the model was examined with the R squared (.616). This value implies that the print media, electronic media, social media, and interpersonal approach have about 61.6% explanation variation in the breast cancer care awareness among the women in Northern Cyprus. Finally, the diagnostic statistics of

the model as presented in Table 5 reveal that the tolerance value for PM (.385), EM (.357), SM (.288), and IP (.414) are all close to zero (0), and the variance inflation factor (VIF) that are not above the threshold value of 5 as suggested by Hair et al. (2010), is an indication that the model is free from the issue of collinearity.

Discussion

There have been long time recognitions of media in the awareness campaign among researchers in the field of communication. Media awareness constitutes a core component in the field of media and communication studies, which has been considered to be an essential instrument deployed to influence public health. The findings from this study have thrown-up some issues in respect of the effectiveness of media inclusiveness in influencing the breast cancer care awareness in the Northern Cyprus. Some of the findings are consistent with existing theories and literature in health communication studies, while some are in contrast.

Three hypotheses were formulated in this study to investigate (i) the significance difference of breast cancer care awareness among the five districts in Northern Cyprus; (ii) the significance difference of breast cancer care awareness among the women age group in Northern Cyprus; and, (iii) the effect of (a) print media (b) electronic media (c) social media, and (iv) interpersonal approach, on the cancer care awareness among the women in Northern Cyprus. Hypothesis 1 was tested and revealed a significant different in the breast cancer care among the women. The finding is consistent with the study of Nelson and Salawu (2016), who established similar result among different states in Nigeria. A further study shows that the breast cancer care awareness is more pronounced in Gazimagusa than other districts. This is an indication the awareness from various channels are more rooted in Gazimagusa.

Our hypothesis 2 which tested the significance difference in the breast cancer care among the women age groups failed to establish a significant result, thus the hypothesis was rejected. Importantly, the effect of different media channel on the breast cancer care awareness was examined with hypothesis 3. The findings established the significance effect of print media, social media, and interpersonal approach on the breast cancer care awareness among the women. Meanwhile, print media is shown to be the most main sources in creating awareness, follow by interpersonal approach and social media. This finding contrasts the position of some author who opined that electronic media is the main source (Lee, 2010). But the study is in agreement with the studies of Kreps and Sivararam (2010), and Leask et al. (2010) who argued that women are more comfortable with reading information on breast cancer from magazines. According to Okorie et al. (2014), magazines contain variety of information on breast cancer risk factors, diagnostic method, and options for treatment, and as such most women prefer to read from magazines. Interestingly, the joint effect of print media, electronic media, social media, and interpersonal approach was established on the breast cancer care awareness among the women in Northern Cyrus, and has about 62% explanation variations in the breast cancer awareness. The findings corroborate the study of Kreps and Sivaram (2009) who argued in their study for the efficacy of mass media in the awareness campaign for health issues. This is an indication that inclusiveness of media has a potential of enhancing the breast cancer care awareness in Northern Cyprus among the women.

Conclusion

It is apparent from the findings of this study that breast cancer is highly prevalent among the women in Northern Cyprus. However, the study shows the inadequacies of awareness campaign. It is also revealed in this study that significant difference exists in respect of the breast cancer care awareness among the five districts in North Cyprus, and finally, the inclusiveness of all media channel was found to have a larger proportion explanation variation in the breast cancer awareness among the women in Northern Cyprus. Therefore, implication of these findings is for the stakeholders in the health management in Northern Cyprus, especially on the breast cancer to ensure an adequate presence of campaign in all districts of Northern Cyprus. The inclusiveness approach of the media should be adopted in disseminating the breast cancer information and enlighten the people owing to its efficacy as established in this study. The limitation of this study is the North Cyprus as a study area which has some constraints in respect of its status as a country, and this to some extent creates some challenges for the country and its inhabitants, therefore caution should be exercised in generalizing the findings. Thus, this study suggests a replication of the study in another setting with similar prevalent of breast cancer among its women.

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Table 1. **Socio-Demographic characteristics of respondents**

Variable		**Frequency**	**Percentage (%)**
Age	15 – 25 years	34	8.5
	26 – 35 years	94	23.5
	36 – 45 years	20	5.0
	46 – 55 years	130	32.5
	Above 55 years	122	30.5
	Total	**400**	**100.0**
District	Gazimagusa	52	13
	Lafkosa	32	20.5
	Guzelyurt	99	24.8
	Iskele	85	21.3
	Girne	82	20.5
	Total	**400**	**100.0**
Educational Level	High School or less	62	15.6
	Bachelor	188	47.0
	Masters	117	29.3
	Ph. D	33	8.3
	Total	**400**	**100.0**

Table 2. **Reliability Test**

Construct	Items	Loadings	Alpha (α)
Breast Cancer Care Awareness	The government organizes breast cancer campaign programs in your community	.779	.904
	My culture permits girls/women to go to health centers for breast examination	.727	
	My religion permits girls/women to go to health centers for breast examination	.807	
	There is a functional health care facility that attends to breast cancer cases in my community	.748	
	I feel that my community receives adequate health attention.	.774	
	I am aware of breast cancer cases in my community.	.780	
	I self-examine my breast frequently for cancer-preventive measures.	.619	
	I am aware that breast cancer is a deadly disease.	.821	
	I am prepared to play my part of sharing breast cancer self-examination message to put an end to the menace of breast cancer in my community.	.781	
Print Media	I get breast cancer information from magazines.	.750	.847
	I get breast cancer information from pamphlets.	.856	
	I get breast cancer information from posters.	.714	
	I get breast cancer information from Newspapers.	.838	
	I get breast cancer information from books.	.776	
Electronic Media	Using radio to send health messages will work well for breast cancer in my community.	.942	.940
	Using TV to send health messages will work well for breast cancer in my community.	.935	
	Using movies to send health messages will work well for breast cancer in my community	.958	
Social Media	Using Facebook to send health messages will work well for breast cancer in my community.	.689	.855
	Sourcing breast cancer information through Google search will work well for breast cancer awareness.	.881	
	Using Instagram to send health messages will work well for breast cancer in my community.	.892	
	Using Twitter to send health messages will work well for breast cancer in my community.	.867	
Interpersonal	Getting breast cancer information from health workers will work well for breast cancer awareness.	.762	.788
	Getting breast cancer information from face-to-face enlightenment will work well for breast cancer awareness.	.637	
	Getting breast cancer information from family and friends will work well for breast cancer awareness.	.857	
	Getting regular breast cancer screening will work well for breast cancer awareness.	.861	

Table 3. **Respondents' health information**

Variable		Frequency	Percentage (%)	Mean	Std. Deviation
General health condition	Excellent	100	25.0	3.56	1.34
	Very good	173	43.3		
	Good	90	22.5		
	Fair	21	5.2		
	Poor	16	4.0		
	Total	**400**	**100**		
Have you ever had any cancer experience?	No personal experience	71	17.8	2.04	.628
	Had family with cancer	242	60.5		
	Cancer survivor	87	21.8		
	Total	**400**	**100.0**		
Do you know anyone with breast cancer?	Yes	210	52.5	1.53	.50
	No	190	47.5		
	Total	**400**	**100.0**		
Have you ever being diagnosed with breast cancer?	Yes	216	54.0	1.54	.499
	No	184	46.0		
	Total	**400**	**100.0**		
Have you been present in any breast cancer campaign in your locality?	Yes	181	45.3	1.52	.50
	No	219	54.7		
	Total	**400**	**100.0**		
Are you aware of any breast cancer campaign?	Yes	146	36.5	1.55	.498
	No	254	63.5		
	Total	**400**	**100.0**		

Table 4. **ANOVA between the District and Age**

Dependent Variable: BCCA	Sum of Squares	df	Mean Square	F	Sig.
ANOVA of BCCA by Districts					
Between Groups	12.101	4	3.025	4.711	.001
Within Groups	253.002	394	.642		
Total	265.103	398			
ANOVA of BCCA by Age					
Between Groups	2.992	4	.748	1.124	.345
Within Groups	2.32.11	394	.665		
Total	265.103	398			

Note: BCCA = Breast cancer care awareness

Table 5. **Post Hoc Tests- Multiple Comparison**

(I) District	(J) District	Mean Diff. (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Gazimagusa	Lefkosa	-.41917*	.14206	.028	-.8085	-.0299
	Guzelyurt	-.59153*	.13748	.000	-.9683	-.2148
	Iskele	-.34899	.14108	.099	-.7356	.0376
	Girne	-.37445	.14206	.066	-.7637	.0148
Lefkosa	Gazimagusa	.41917*	.14206	.028	.0299	.8085
	Guzelyurt	-.17236	.11993	.604	-.5010	.1563
	Iskele	.07017	.12404	.980	-.2697	.4101
	Girne	.04472	.12515	.997	-.2982	.3877
Guzelyurt	Gazimagusa	.59153*	.13748	.000	.2148	.9683
	Lefkosa	.17236	.11993	.604	-.1563	.5010
	Iskele	.24254	.11877	.248	-.0830	.5680
	Girne	.21708	.11993	.369	-.1116	.5457
Iskele	Gazimagusa	.34899	.14108	.099	-.0376	.7356
	Lefkosa	-.07017	.12404	.980	-.4101	.2697
	Guzelyurt	-.24254	.11877	.248	-.5680	.0830
	Girne	-.02546	.12404	1.000	-.3654	.3145
Girne	Gazimagusa	.37445	.14206	.066	-.0148	.7637
	Lefkosa	-.04472	.12515	.997	-.3877	.2982
	Guzelyurt	-.21708	.11993	.369	-.5457	.1116
	Iskele	.02546	.12404	1.000	-.3145	.3654

* The main difference is significant at the 0.05 level

Table 6. **Regression analysis**

Model	Coefficient	Std. Error	t	Sig.	Collinearity Statistics	
					Tolerance	VIF
PM	.612	.055	11.059	.000	.385	2.596
EM	-.051	.052	-.986	.325	.357	2.798
SM	.181	.065	2.800	.005	.288	3.476
IP	.210	.056	3.746	.000	.414	2.414
Constant	.027	.103	.259	.796		
R Square	.616					
Durnin-Watson	1.294					
F	157.589			.000		

Dependent variable: BCCA = Breast cancer care awareness

Predictors: (constant), PM = print media, EM = electronic media, SM = social media, IP = interpersonal