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SOURCES OF MEDICAL INFORMATION AMONG THE PHC S' ATTENDANTS IN MOSUL.

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ABSTRACT

Background: Few studies have evaluated the degrees to which various types of health information sources are associated with disease preventive and screening practices. Because different socioeconomic and demographic groups use specific information sources to varied degrees, it is important to determine if specific classes of health information sources are more effective than others in promoting health behaviors. **Aim of the study:** To examine and compare the socio-demographic characteristics and the preference of different sources of health information among the present study sample. **Patients and Methods:** A cross-sectional study design was adopted and included 2492 participants who attended to PHC in Mosul city during period from 1st November to 31st December 2022. The data were collected using a researcher-administered questionnaire during the direct interview. **Results:** The most frequent source was the social media followed by TV-channels and the least was display screens. Those with age below 45 years were higher compared to other groups for all sources. Males were significantly more frequent than female in radios, social media, work places, and places of worships. According to educational levels, significant differences were found for the sources of information apart from the direct counseling. The secondary level of education was the most frequent in all the sources. The housewives had the most frequencies in lectures, direct counseling, TV-channels, and family/friends. The employee had higher frequencies in posters/folders, display screens, and work places. The freelance had higher frequencies in Radios, social media, and places of worships. The married participants showed the higher frequencies in all sources. The participants lived in urban showed the higher frequencies in all sources. **Conclusion:** Social media and TV-channels found to be the most frequent source for the health information among the present study sample. It is found that younger age group, male gender, higher education, married, who lives in urban areas were the more frequent seeker for the health information.

KEYWORDS: Sources of medical information, PHC s' attendants.

INTRODUCTION

Today, more than ever, public health issues require the use of health promotion. The world is currently dealing with a "triple burden of diseases," which includes the unfinished business of communicable diseases, newly developing and reemerging diseases, as well as the extraordinary growth of chronic non-communicable diseases.[1]

Prior efforts have helped the researchers to identify four indispensable pathways to effective health promotion. Each of these pathways highlights one characteristic of person-centered health care. As expressed by Juan Mezzich, effective health promotion needs to be "for the person, with the person, by the person, and of the person".[2]

The terms "health education" and "health promotion" are occasionally used interchangeably. In order to encourage people to adopt healthy habits on their own, health education involves imparting knowledge and skills regarding health to both individuals and communities. In contrast to health promotion, which takes a more all-encompassing approach to promoting health by involving different players and putting a focus on multisectoral approaches, health promotion is a combination of learning experiences designed to help

individuals and communities improve their health by increasing their knowledge or influencing their attitudes. Health promotion is tailored to respond to events that have an impact on health directly or indirectly, such as inequality, changes in consumption patterns, surroundings, cultural attitudes, etc.[3]

The health promotion method is symbolized by the logo, which was initially accepted at the inaugural international conference on health promotion in Ottawa and then developed at other conferences. A circle with three wings serves as the logo. It includes three fundamental HP concepts as well as five important action areas for health promotion (improve personal skills, reposition health services, strengthen community action for health, construct healthy public policy) (to enable, mediate and advocate).[1]

a. The outer circle represents the goal of "Building Healthy Public Policies" and the need for policies to "hold things together". This circle has three wings inside it which symbolize the need to address all five key action areas of health promotion identified in the Ottawa Charter in an integrated and complementary manner.[1]
b. The small circle stands for the three basic strategies for health promotion, "enabling, mediating, and advocacy".[4]
c. The three wings represent and contain the words of the five key action areas for health promotion – reorient health services, create supportive environment, develop personal skills and strengthen community action.[1, 4]

Health communication is a strategy for disseminating information with the aim of enhancing health outcomes through the promotion of behavior modification and societal change throughout the continuum of knowledge, beliefs, attitudes, and behaviors.[5, 6] Health attitudes and behaviors have been linked to mass media (such as TV, print, and the Internet) health communication tactics.[7-11] More recently, researchers have looked at how social networks (i.e., the web of interpersonal ties that surround a person and are connected by a sort of interdependency, such as friendship, kinship, or a career or hobby) affect various aspects of health.[12, 13] These interpersonal connections, whether they be ones formed through social ties like friends, family, or local associations[14-17] or those with healthcare providers[18] may also be sources of health information, and have been associated with health beliefs and possibly behaviors.[15, 19]

Few studies have evaluated the degrees to which various types of health information sources (such as interpersonal versus mass media) are associated with disease preventive and screening practices.[9,16] Because different socioeconomic and demographic groups use specific information sources to varied degrees.[9, 21-27], it is important to determine if specific classes of health information sources are more effective than others in promoting health behaviors.

The aim of this study was to examine and compare the socio-demographic characteristics and the preference of different sources of health information among the present study sample.

PATIENTS AND METHODS

Study setting, sample, and period

A randomly selected sample of attendants to the PHCs at the Mosul city was included in the study. The attendants reached for difference reasons and they were selected randomly and a verbal consent was obtained from each after brief explanation of the study objectives. The data collection was continuing for 2 months starting from 1st November to 31st December 2022.

Study design and sample size

In order to achieve the study objectives, a cross-sectional study design was adopted and the sample size of the present study will include 2492 persons.

Data collection Tool

The data were collected using a researcher-administered questionnaire during the direct interview. The questionnaire had two main aspects. The first part assessed the demographic data of the participants, such as age, gender, area of residence, educational level, and current occupation. The second part assessed the different used and trusted sources of medical information. It contained two questions. The first question concerned the ranking of the most used source, and the second question concerned the extent of trust in the sources chosen in the first question.

Statistical analysis

The data analysis will be conducted by using Pantium4 computer using. Excel (version 2007) and SPSS version 26 computer program will be used for data manipulation. The data were expressed in frequency and percentages. Chi square test was used to find the differences. The p-value ≤ 0.05 was considered significant.

RESULTS

Distribution of the study sample according to the sources of information was showed in figure (1), the most frequent source was the social media that chosen by 532 participants, followed by TV-channels by 395 participants, Lectures by 384, family/ friends by 265, work places by 234, direct counseling by 206, posters/folders by 171, radios by 116, places of worship by 95, and display screens by 94 participants.

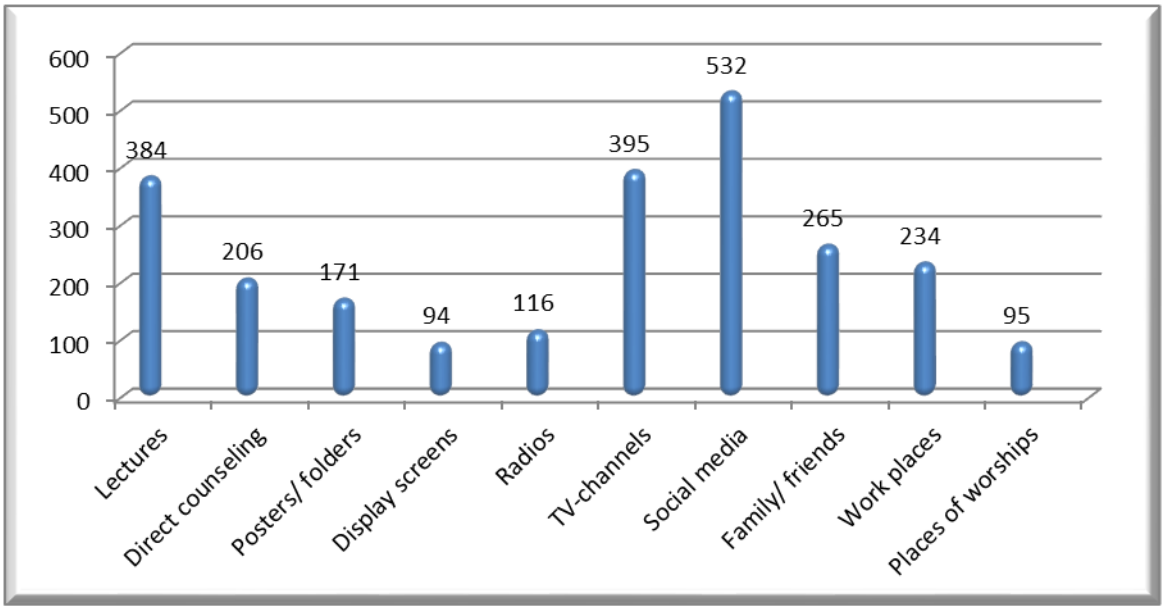

Figure (1): Distribution of the study sample according to the sources of information.

The distribution of the sources of information according to age groups was demonstrated in table (1) and found that there were significant differences for all the sources with the age groups. The age group (31-45) was higher compared to other groups for lectures, direct counseling, Posters/ folders, Display screens, Radios, Family/ friends, Work places, and Places of worships. While age group (15-30) was the most frequent for TV-channels and Social media.

Table (1): Distribution of the sources of information according to age groups.

Source of information	**15-30 years (n=976)**	**31-45 years (n=1024)**	**46-60 Years (n=387)**	**61 + years (n=105)**	**p-value***
	No. (%)	No. (%)	No. (%)	No. (%)	
Lectures (n=384)	138(35.9)	161(41.9)	64(16.7)	21 (5.5)	0.000
Direct counseling (n=206)	77 (37.4)	84 (40.8)	34 (16.5)	11 (5.3)	0.000
Posters/ folders (n=171)	65 (38.0)	71 (41.5)	28 (16.4)	7 (4.1)	0.000
Display screens (n=94)	35 (37.2)	41 (43.6)	15 (16.0)	3 (3.2)	0.000
Radios (n=116)	38 (32.8)	48 (41.4)	23 (19.8)	7 (6.0)	0.000
TV-channels (n=395)	160 (40.5)	156 (39.5)	63 (15.9)	16 (4.1)	0.000
Social media (n=532)	242 (45.5)	222 (41.7)	60 (11.3)	8 (1.5)	0.000
Family/ friends (n=265)	97 (36.6)	100 (37.7)	48 (18.1)	20 (7.6)	0.000
Work places (n=234)	94(40.2)	107(45.7)	31(13.2)	2(0.9)	0.000
Places of worships (n=95)	30(31.6)	34(35.8)	21(22.1)	10(10.5)	0.002

*Chi square test.

The distribution of the sources of information according to gender was demonstrated in table (2) and found that there were significant differences only for radios, social media, work places, and places of worships with males' predominance.

Table (2): Distribution of the sources of information according to gender.

Source of information	**Males (n=1294)**	**Females (n=1198)**	**p-value***
	No. (%)	**No. (%)**	
Lectures (n=384)	187 (48.7)	197 (51.3)	0.610
Direct counseling (n=206)	92 (44.7)	114 (55.3)	0.125
Posters/ folders (n=171)	85 (49.7)	86 (50.3)	0.939
Display screens (n=94)	51 (54.3)	43 (45.7)	0.409
Radios (n=116)	70 (60.3)	46 (39.7)	**0.026**
TV-channels (n=395)	183 (46.3)	212 (53.7)	0.145

Social media (n=532)	289 (54.3)	243 (45.7)	**0.046**
Family/ friends (n=265)	124 (46.8)	141 (53.2)	0.296
Work places (n=234)	143 (61.1)	91 (38.9)	**0.001**
Places of worships (n=95)	70 (73.7)	25 (26.3)	**0.000**

*Chi square test

The distribution of the sources of information according to educational levels was demonstrated in table (3) and found that there were significant differences for the sources of information apart from the direct counseling. The secondary level of education was the most frequent in all the sources. The least frequent was found in illiterate for lecture, direct counseling, posters/folders, radios, TV-channels, social media, and work places. While the least Family/ friends and places of worship found in university and least Display screens found in primary level.

Table (3): Distribution of the sources of information according to educational levels.

Source of information	Illiterate (n=303)	Primary (n=532)	Secondary (n=1107)	University (n=550)	p-value*
	No. (%)	No. (%)	No. (%)	No. (%)	
Lectures (n=384)	54 (14.0)	84(21.9)	165(43.0)	81(21.1)	0.000
Direct counseling (n=206)	41(19.9)	59(28.6)	61(29.6)	45(21.8)	0.121
Posters/ folders (n=171)	12(7.0)	28 (16.4)	82(48.0)	49(28.7)	0.000
Display screens (n=94)	17(18.1)	11(11.7)	43(45.7)	23(24.5)	0.000
Radios (n=116)	16(13.8)	32(27.6)	45(38.8)	23(19.8)	0.001
TV-channels (n=395)	46(11.6)	89(22.5)	184(46.6)	76(19.2)	0.000
Social media (n=532)	28(5.3)	107(20.1)	270(50.8)	127(23.9)	0.000
Family/ friends (n=265)	52(19.6)	59(22.3)	114(43.0)	40(15.1)	0.000
Work places (n=234)	20(8.5)	37(15.8)	104(44.4)	73(31.2)	0.000
Places of worships (n=95)	17(17.9)	26(27.4)	39(41.1)	13(13.7)	0.001

*Chi square test

The distribution of the sources of information according to occupations was demonstrated in table (4) and found that there were significant differences for all the sources with the occupations. The housewives had the most frequencies in lectures, direct counseling, TV-channels, and family/friends. The employee had higher frequencies in posters/folders, display screens, and work places. The freelance had higher frequencies in Radios, social media, and places of worships.

Table (4): Distribution of the sources of information according to occupations.

Source of information	Employee (n=671)	Freelance (n=723)	Students (n=219)	Un-employed (n=187)	House-wives (n=692)	p-value*
	No. (%)	No. (%)	No. (%)	No. (%)	No. (%)	
Lectures (n=384)	114(29.7)	92(24.0)	32(8.3)	25(6.5)	121(31.5)	**0.000**
Direct counseling (n=206)	45(21.8)	62(30.2)	11(5.3)	11 (5.3)	77(37.4)	**0.000**
Posters/ folders (n=171)	61(35.7)	44(25.7)	18(10.5)	10(5.9)	38(22.2)	**0.000**
Display screens (n=94)	31(32.9)	30(31.9)	9(9.6)	4(4.3)	20(21.3)	**0.000**
Radios (n=116)	29(25.0)	36(31.1)	5(4.3)	16(13.8)	30(25.8)	**0.000**
TV-channels (n=395)	90(22.8)	103(26.1)	38(9.6)	24(6.1)	140(35.4)	**0.000**
Social media (n=532)	146(27.4)	154 (28.9)	57(10.7)	37(7.0)	138 (26.0)	**0.000**
Family/ friends (n=265)	44 (16.6)	81(30.6)	24(9.1)	21(7.9)	95(35.8)	**0.000**
Work places (n=234)	96(41.0)	87(37.2)	19(8.1)	22(9.4)	10(4.3)	**0.000**
Places of worships (n=95)	15(15.8)	34 (35.8)	6(6.3)	17(17.9)	23(24.2)	**0.000**

*Chi square test

The distribution of the sources of information according to marital status was demonstrated in table (5) and found that there were significant differences for all the sources with the marital status. The married participants showed the higher frequencies in all sources.

Table (5): Distribution of the sources of information according to marital status.

Source of information	Unmarried (n=685)	Married (n=1545)	Divorced (n=88)	Widowed (n=174)	p-value*
	No. (%)	No. (%)	No. (%)	No. (%)	
Lectures (n=384)	92 (24.0)	251 (65.4)	13 (3.4)	28 (7.3)	**0.000**
Direct counseling (n=206)	52 (25.2)	125 (60.7)	11 (5.3)	18 (8.7)	**0.000**
Posters/ folders (n=171)	49 (28.7)	105 (61.4)	3 (1.8)	14 (8.2)	**0.000**
Display screens (n=94)	26 (27.7)	57 (60.6)	4 (4.3)	7 (7.4)	**0.000**
Radios (n=116)	26 (22.4)	75 (64.7)	3 (2.6)	12 (10.3)	**0.000**
TV-channels (n=395)	106 (26.8)	250 (63.3)	11 (2.8)	28 (7.1)	**0.000**
Social media (n=532)	165 (31.0)	333 (62.6)	18 (3.4)	16 (3.0)	**0.000**
Family/ friends (n=265)	79 (29.8)	146 (55.1)	10 (3.8)	30 (11.3)	**0.000**
Work places (n=234)	68 (29.1)	145 (62.0)	12 (5.1)	9 (3.8)	**0.000**
Places of worships (n=95)	22 (23.2)	58 (61.0)	3(3.2)	12 (12.6)	**0.000**

*Chi square test

The distribution of the sources of information according to residence was demonstrated in table (6) and found that there were significant differences in the participants lived in urban showed the higher frequencies in all sources.

Table (6): Distribution of the sources of information according to residence.

Source of information	Urban (n=1969)	Rural (n=523)	p-value *
	No. (%)	**No. (%)**	
Lectures (n=384)	276(71.9)	108(28.1)	0.000
Direct counseling (n=206)	167(81.1)	39(18.9)	0.000
Posters/ folders (n=171)	139(81.3)	32(18.7)	0.000
Display screens (n=94)	88(93.6)	6(6.4)	0.000
Radios (n=116)	91(78.4)	25(21.6)	0.000
TV-channels (n=395)	306(77.5)	89(22.5)	0.000
Social media (n=532)	440(82.7)	92(17.3)	0.000
Family/ friends (n=265)	201(75.8)	64(24.2)	0.000
Work places (n=234)	184(78.6)	50(21.4)	0.000
Places of worships (n=95)	77(81.1)	18(18.9)	0.000

*Chi square test

DISCUSSION

The urge for primary care patients to acquire diagnostic and/or therapeutic information from their doctor based on symptoms the patient may be experiencing frequently motivates patients to visit their primary care physician. During their early interactions with healthcare professionals, patients attempt to meet their information demands[28], additionally, patients desire to comprehend both the diagnosis and the history of their ailment. Therefore, it was not surprising that a prevalent information requirement was for information about a disease or medical condition, particularly chronic diseases.[29]

To our knowledge, no research has been done on how PHC s' attendants look for health-related information in Mosul city.

In the present study, the most frequent source was the social media in 532 participants, TV-channels in 395 participants, Lectures in 384, family/ friends in 265, work places in 234, direct counseling in 206, posters/folders in 171, radios in 116, places of worship in 95, and display screens in 94 participants.

Due to the ease of access to health information media and the Internet, patients are now more frequently seeking information.[30] Large amounts of health information are now easily accessible for consumers because to improved Internet connectivity. 73% of American households have access to the Internet since 2013.[31] The desire for online health information may be fueled by the restricted availability of information from traditional sources, such doctors and books, and the easy access to reliable online sources.[32] For instance, by 2010, only 18% of people used print media, a substantial fall from 33%, which may be largely responsible for the overall decline in patient information seeking.[33] The diminishing readership of print newspapers, periodicals, and book sales may be to blame for this negative trend in the use of print media for health information.[34] According to the most recent Pew Internet Survey, which is a national poll of 3014 American adults, finding health information is currently the third most popular online activity. 59% of US consumers use the internet to search for health information, while 52% of smartphone owners do the same.[35]

In the present study, generally, the age groups below 45 years among the study sample constituted the most frequent seekers for the health information. It was hypothesized that older age groups place a high priority on their health and wellbeing in order to maintain their independence. Compared to younger persons, older adults have several healthcare difficulties that are frequently more common and chronic.[36] A small number of studies have, to yet, looked at older persons' needs for health information and behaviors, which is similar to the present conclusion. It has been shown that elderly cancer survivors were less inclined to seek knowledge than their younger counterparts and were more likely to turn to friends, family, or books rather than the Internet.[37] Haverhals *et al.,*[38] conducted interviews with older adults to better understand their information-seeking behaviors and discovered that the majority of participants consulted pharmacists and clinicians, patients' family members and friends, reference books, and even medication inserts for information about medications. Participants admitted to accessing the Internet when they wanted quick answers, but they had reservations about its dependability.

Gender difference was obvious in the present study in that the significant differences of radios, social media, work places, and places of worships were with males' predominance while for other sources the females were predominant but statistically not significant. Contrarily, male respondents utilize apps more frequently than female respondents do to search for health-related information. This is in keeping with research showing that males consistently use more mobile apps and the Internet than women do.[39, 40] Or and Karsh[41], who claim that women experience higher levels of computer anxiety and less perceived behavior control, offer one significant explanation for why males use mobile devices and applications more frequently than women. The majority of people who look for medical information online are women, according to Choudhury *et al.,*[42] regardless of the source of consultation. Women are also typically more interested in finding out about health issues than men.

The present study found that there were significant differences of the different sources of health information among the educational levels; the secondary levels and university reported the higher frequencies in comparing to the lower educational levels. Also housewives had the most frequencies in lectures, direct counseling, TV-channels, and family/friends. The employee had higher frequencies in posters/folders, display screens, and work places. The freelance had higher frequencies in Radios, social media, and places of worships. According to a study by Dart *et al.*,[43] conducted in Australia, university populations (students and staff) utilize the internet more frequently than low- or middle-income populations do to find health information. According to reports, education degree significantly influences how reliable the source of medical knowledge is.

Significant differences for all the sources with the marital status. The married participants showed the higher frequencies in all sources. A significant body of research backs up the beneficial impact of marriage on health. Males, who are married, in particular, have a greater life expectancy than those who are not.[44, 45] Initially, it was believed that the observed link between marriage and health resulted from "marriage selection," which is the idea that people who choose to get married do so because of behavioral or health-related considerations.[46] The literature on the idea of "marriage protection," however, is expanding. This idea suggests that having close friends and family members has a protective role that may lead to greater health since spouses (particularly women) serve as caregivers by offering both physical and emotional assistance.[47-49] The Grossman model of health capital also supports the notion that social factors influence the development of health.[50]

Significant differences in the participants lived in urban showed the higher frequencies in all sources. Compared to urban inhabitants, researchers have found that rural individuals have restricted access to and usage of online health information[51], especially when it comes to high-speed Internet connection (52). Additionally, they have less access to healthcare professionals.[53] These infrastructural issues may be major barriers to health information availability and usage in remote locations given that people regard health care providers and the Internet as their primary sources of health information.[54, 55]

CONCLUSION

Social media and TV-channels found to be the most frequent source for the health information among the present study sample. It is found that younger age group, male gender, higher education, married, who lives in urban areas were the more frequent seeker for the health information.

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