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Health Education Needs Assessment Survey at Al Kharj Military Industries Corporation Hospital.

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Abstract:

Objective: The purpose of this research was to find out various health education needs and preferences of a diverse patient population.

Methods: A cross sectional survey was conducted between the period of April 2017 and Oct 2017. The study involved attendees of Al-Kharj Military Industries Corporation Hospital (AKMICH). A total of 400 participants were included in the study with male to female ratio of 1:1.

Results: The results suggest that most of the participants were married with a mean age of 37.08 years (SD ± 13.54 years). Majority of them were literate and employed. Overall, 213 participants had received some sort of health education advice. Most of them had received it from physicians and nurses, while some also reported to have received it from health educators. About 40% of the study population was satisfied with the health education provided to them. Around 74.6% felt that they needed health education services, preferably by doctors (72.8%). 44.3% thought that health education clinic was the best source for disseminating health education. Most of the inpatients, around 75%, needed health education about their own illnesses, followed by health education on lifestyle modification, while out-patient and primary care patient needed education about the prevention of diseases. The main obstacles faced by the participants (32.3%) during health education comprised mainly of unexplained medical terms (25% inpatient, 43.5% outpatient and 27.4% primary care). Moreover, around 21.3% thought that health education was delivered in a different language (29.2% inpatient, 21.8% outpatient and 20.2% primary care).

Conclusion: The results of the study confirmed our hypothesized health education needs, preferences and obstacles faced by inpatient, outpatient and primary care patients. A preferred method agreed by majority of the participants was "face to face health education clinics" where the education providers included physician. Therefore, physicians must be encouraged for the provision of adequate knowledge to patients with respect to their illness, lifestyle changes according to their disease and prevention of diseases in future.

Keywords: Heath education; needs; preferences; inpatient; outpatient; primary care clinics; AKMICH.

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1. INTRODUCTION:

It is a very well-established fact that health is seriously vital for sustainable development. Similarly, better health is necessary for the enhancement of education and economic outcome. Thus, it is strongly linked with a society's social development [1,2]. Consequently, health education plays an imperative role nowadays where almost everyone has access to at least some sources of information. While this may be fruitful most of the times but may as well turn out to be dangerous if not channelized in the right direction. Health education is defined by the World Health Organization (WHO) as "Any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes"[3]. It provides opportunities for both, the communities as well as the individuals to attain the required information or skills with respect to health decisions or behaviours [4].

Paulo Freire, a Brazilian philosopher and educator, advised that, "transformation is valid only if it is carried out with the people, not for them" [5]. Following this advice, we can locally improve literacy, infrastructure and culture by adequately educating people regarding their health and general wellbeing. It is believed that health education is the real foundation of a primary health care system. It not only expands people's knowledge and beliefs about diseases but also improves their compliance towards treatment and ultimately leads to better self-management [6,7]. As public health is now facing extraordinary challenges and new opportunities at the same time. A growing burden of chronic diseases often deviates from their core objective of delivering clinical services towards population-based services. Another responsibility of health departments is to collaborate with other departments for conducting community need assessments and data sharing [8,9]. Through public engagements and provision of high quality medical care, United States has taken a tremendous leap forward during the last couple of decades to improve general health and life expectancy of its population [10]. Health restructuring efforts not only enhance the quality of health care and patient satisfaction but also lower the overall cost of total health care services.

Health education should be suitable and customized for target population to foster good effects and create a positive influence on public behaviour towards their health. Content, layout and cultural appropriateness should be taken into account to maximize the usability of health education material [11]. The means of health education have changed substantially over the

years, from written material to electronic mediums. Regular feedbacks and assessment of patient satisfaction have shown to improve the effectiveness of healthcare system through identification of potential areas of improvement. They also help both, the healthcare providers (health educators, physicians, and hospital administrators) as well as patients themselves for provision of, and adherence to standards of health care [12,13].

Health education needs assessments should also be pre-empted and carried out at regular intervals, considering the socio-economic changes that occur in a society over time. Various health education programs have been conducted on different health issues throughout the KSA. In 2014, Ministry of Health (MOH) distributed a variety of health education material and took part in 9,000 national and international health awareness actions to combat smoking, cancer and diabetes [14].

These health educational interventions can prove to be more effective if they are appropriately targeted towards the different segments of society, and according to their preferences and needs. Therefore, it is essential to involve patients regularly and frequent assessments should be conducted to prioritize their needs and improve the modes of health education provision. Hence, the two main objective of our study were to identify that to whom and how the health services were provided among the study population and what were patient preferences regarding health education services.

2. MATERIAL AND METHODS:

2.1 Study design and study population:

A cross-sectional survey was conducted during the period between April 2017 and October 2017. The study involved attendees of Al Kharj Military Industries Corporation Hospital (AKMICH), in Al-Kharj city of Kingdom of Saudi Arabia (AKMICH) with the aim of reflecting the anticipation of AKMICH users regarding their health education needs and preferences. AKMICH is considered to be one of the main health facilities among the group of those providing health care services in Saudi Arabia. The hospital provides health services at all levels of care to military personnel and their families as well as to hospital staff, usually serving around 200 thousand individuals per year.

The study population consisted of all the patients (in patients & out patients) above 18 years of age attending Al Kharj Military Industries Corporation Hospital. We included patients who gave their verbal consent for participation in the study, the military personnel and their dependents, staff working on AKMICH and their dependents. We excluded all the patients who rejected to participate in the survey, the attendees who happened to be mentally or speech disordered and those who were young (below 18 years) with no adult relatives accompanying them.

2.2 Sample size calculation:

The minimum expected sample size with extra sample size to account for any possible drop-outs, data flaws etc. was 400 with required precision of 5%, power of study 95%, adults more than 18 years and with a total expected patient to be 383.

2.3 Sampling technique:

The calculated sample size was distributed proportionally to the different hospital areas in AKMICH based on the rate of attendees in each area per year. For example, for determining the sample distribution in Out-Patient Clinics (OPD) we used the following equation:

Total number of patients seen in OPD clinics (56751) divided by total number of patients in all hospital (184474) then multiplying by sample size (400) (see Table 1 below).

The enrollment of participants was based on simple random technique to give a chance to the attendees to be eligible for inclusion. Therefore, participants were included using the first come first served principle, after explaining them the objectives and the expected outcomes from the study. Participants were also ensured of full privacy regarding the information obtained from them. Written consent was obtained from all the participants.

Table 1: Sample size distribution per hospital areas

Strata	Total no of patients	Sample %	Survey forms to be collected
OPD	56751	31%	124
In patient	11885	6%	24
Primary care	115838	63%	252
Total	**184474**	**100%**	**400**

2.4 Data Collection Methods, instruments used, and Measurements

A questionnaire was constructed based on previous surveys, that were related to the benefits of health education services and patient satisfaction [15,16]. It is important to establish that some of the questions we included in our questionnaire had not been tested previously. Therefore, a 5% pilot survey was conducted among the attendees (20 participants) at AKMICH to test the questionnaire items and to evaluate the content and face validity of the questions. Reliability of the questionnaire was also assessed thoroughly. Findings from the pilot study were considered for further changes and customization of the questionnaire, such as rephrasing unclear questions etc. comments and reflection of some health care professionals who expressed their views and opinions on health education process were also analyzed and used to further refine the questionnaire. The questionnaire was then translated into Arabic language and was verified by back-translation performed by a different bilingual person who had not seen the original English language version. Any areas of disagreement in the translation were resolved through discussion between both, the translators and the researcher. The piloting phase took one month to complete. The final version of the questionnaire (see appendix) included socio-demographic characteristics, availability and provision of health educational services, and patient preferences for health education services.

2.5 Ethical Considerations

Approval was taken from the research and ethics committee of the hospital as well as the hospital director. Participants were informed that the participation in this survey was voluntary and was merely for research purpose. The information was collected, and confidentiality of the participants was ensured. This was clarified on the first page of the questionnaire and the participation consent was obtained verbally. Participants had the right to withdraw from the interview or to refuse answering any questions at any time of the interview without any consequences related to the quality of services provided to them. Informed consent was attached with the questionnaire.

2.6 Statistical Analysis:

The final analysis was performed on a complete sample size of 400. Data were entered into and analyzed via SPSS version 21. Descriptive statistics was calculated for frequency and percentages. Association between categorical variables was explored using chi-square test.

3. RESULTS:

The study population consisted of 400 participants from the attendees of AKMICH with a mean age of 37.08 years and a standard deviation of ± 13.54 years. Table 2 represents the descriptive statistics for sociodemographic characteristics of our study participants. An equal number of males and females were enrolled in this study. Majority of the participants belonged to younger age groups, ranging between 25 to 31 years and 32 to 38 years respectively. Almost all, i.e. 99.6% participants were Saudi nationals and out of these about 96.4% were residents of Al-Kharj. Around 83.3% of the total participants were married. More or less 3/4th of the study participants had completed secondary or higher secondary education. Nearly half of the study population (48.8%) was employed while 35.7 % were unemployed. The rest comprised of students (10.7%) and people who were retired (4.8%) at the time of recruitment. Overall, around 67.9% had a history of some sort of chronic diseases.

Table 2 Sociodemographic Characteristics of Studied Population

	Inpatient		**OPD**		**Primary care**	
	No.	**%**	**No.**	**%**	**No.**	**%**
Age						
18 - 24	4	16.7	19	15.3	38	15.1
25 - 31	5	20.8	37	29.8	69	27.4
32 - 38	3	12.5	25	20.2	56	22.2
39 - 45	3	12.5	19	15.3	29	11.5
≥ 46	9	37.5	24	19.3	60	23.8
Gender						
Male	12	50.0	62	50.0	126	50.0
Female	12	50.0	62	50.0	126	50.0
Nationality						
Saudi	24	100	124	100	251	99.6
Others	0	0	0	0	1	0.4
Marital Status						
Single	6	25.0	13	10.5	37	14.7
Married	16	66.7	111	89.5	206	83.3
Divorced	0	0	0	0	4	1.6
Widow/er	2	8.3	0	0	5	2.0
Education						
Illiterate	3	12.5	2	1.6	13	5.2

Primary	2	8.3	13	10.5	26	10.3
Intermediate	5	20.8	13	10.5	35	13.9
Secondary	7	29.2	50	40.3	84	33.3
High Secondary	7	29.2	46	37.1	94	37.3
Occupation						
Student	2	8.3	8	6.5	27	10.7
Employed	12	50.0	63	50.8	123	48.8
Don't work	8	33.3	46	37.1	90	35.7
Others – Retired	2	8.3	7	5.6	12	4.8
Place of residence						
Al Kharj	20	83.3	116	93.5	243	96.4
Others	4	16.7	8	6.5	9	3.6
Chronic disease						
Yes	16	66.7	96	77.4	171	67.9
No	8	33.3	28	22.6	81	32.1

Table 3 illustrates the different Health Education Services which had been provided in the hospital's in-patient departments, out-patient departments, and the primary care clinic of AKMICH. Among all the participants, some 56.3% had received some sort of health education advice in AKMICH. Around 70.8% of the in-patient, 57.3% of the OPD, and 64.35% of the primary care clinic patients received health education from a doctor. Some 11.3% of the OPD and 11.5% of the primary care participants received health education from health educators, while 20.8% of the in-patients also received health education advices from nurses, and this association was found to be statistically significant. Upon inquiring about health education advice, majority of the in and out patients as well as primary care patients reported that they received it from the health education clinics (via one on one sessions). Printed education material and educational information in the waiting rooms were the second and third most common sources respectively. Interestingly though, almost $2/5^{th}$ of the inpatient, outpatient and primary care patients reported that they were fully satisfied with the health education that they had received in different forms, while about another two fifth of the population occasionally satisfied while one fifth were not satisfied at all by the health education provided unto them.

Table 3 Provision of Health Education Services in the Studied Population

	Inpatient		OPD		Primary care		*P*-value
	No.	%	No.	%	No.	%	(χ2-test)
Received any health education advice							
Yes	11	45.8	60	48.4	142	56.3	0.262
No	13	54.2	64	51.6	110	43.7	
Providers of health education							
Doctor	17	70.8	71	57.3	162	64.3	0.285
Health Educator	1	4.2	14	11.3	29	11.5	0.543
Nurse	5	20.8	4	3.2	6	2.4	0.000030
Dietician	1	4.2	6	4.8	15	6.0	0.867
Social Worker	0	0	0	0	6	2.4	0.167
Pharmacist	1	4.2	7	5.6	9	3.6	0.644
Other patients	1	4.2	11	8.9	19	7.5	0.717
Others	1	4.2	3	2.4	11	4.4	0.643
Methods of health education advice							
Health Education Clinic (one to one)	8	33.3	25	20.2	55	21.8	0.360
Group teaching	1	4.2	10	8.1	23	9.1	0.692
Printed Educational Materials	3	12.5	29	23.4	57	22.6	0.489
Educational information in the waiting room	3	12.5	27	21.8	53	21.0	0.581
Others	4	16.7	30	24.2	45	17.9	0.323
Satisfaction with the health education							
Yes	11	45.8	48	38.7	104	41.3	0.538
Sometimes	11	45.8	46	37.1	92	36.5	
No	2	8.3	30	24.2	56	22.2	

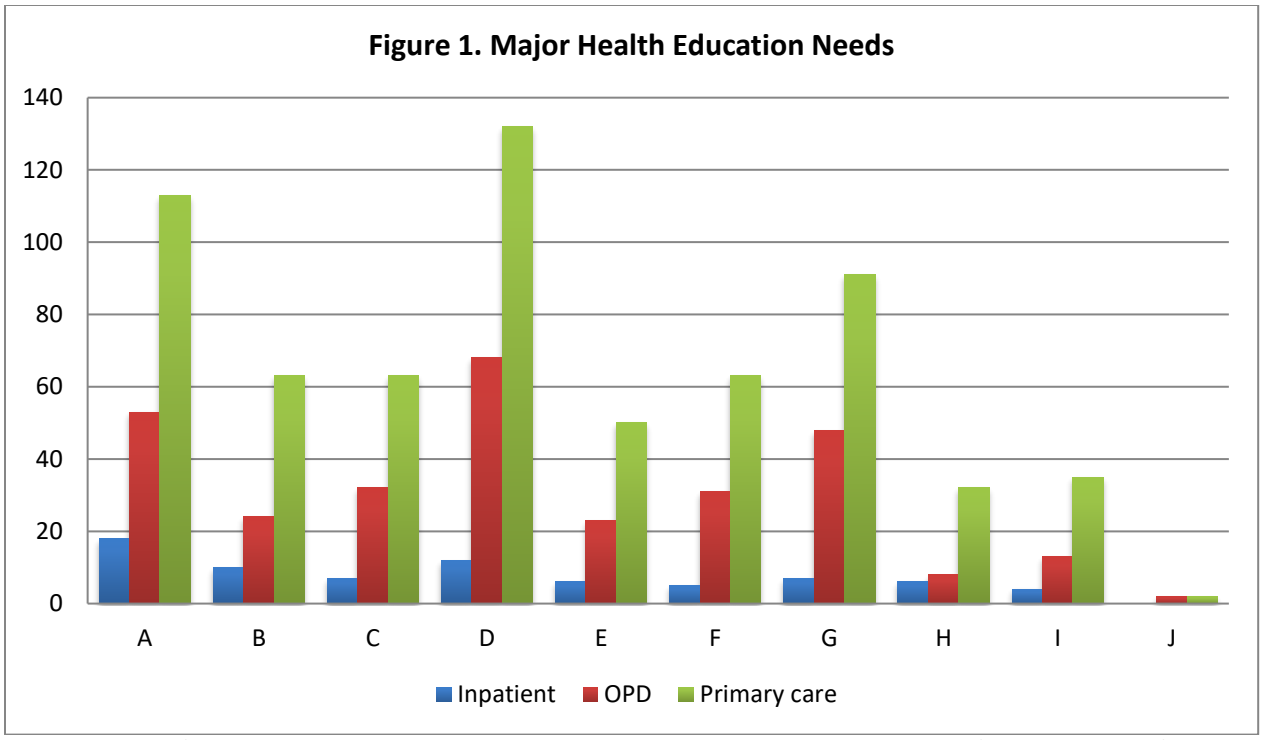
Level of significance p-value= <0.05.

The results in the table 4 show the patient preferences regarding various services of health education. Majority of the total population, i.e. 74.6% felt that they needed health education services. However, most of them (72.8%) preferred to receive such health education from doctors, while some of them (40.3%) also wanted to receive it from health educators. Out of the total 400 participants, 44.3% thought that health education clinic was the best source for disseminating health education, while 32.5% preferred health education in the waiting rooms of health care facilities. Around 24.8% wanted to get it through media sources (internet or social media), whereas 23% preferred printed material and 19.5% sought group teaching.

Table 4 Patient Preference of Health Education Services

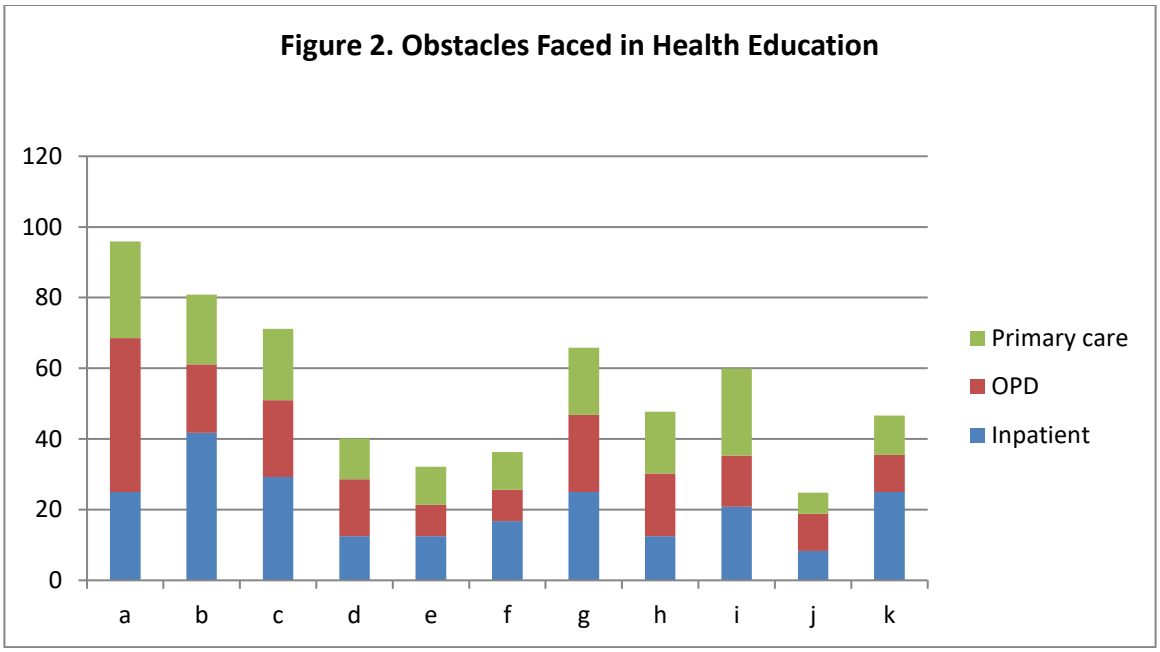
	Inpatient		OPD		Primary care		*P*-value
	No.	%	No.	%	No.	%	(χ2-test)
Need of such health education services							
Yes	20	83.3	95	76.6	188	74.6	0.034
Sometimes	3	12.5	28	22.6	43	17.1	
No	1	4.2	1	0.8	21	8.3	
Health education provider preferences							
Doctor	22	91.7	87	70.2	182	72.2	0.091
Health Educators	8	33.3	52	41.9	101	40.1	0.731
Others	1	4.2	4	3.2	4	1.6	0.487
Methods of health education preference							
Health Education Clinic (one to one)	9	37.5	53	42.7	115	45.6	0.686
Group Teaching	6	25.0	24	19.4	48	19.0	0.780
Printed Educational Materials	7	29.2	32	25.8	53	21.0	0.445
Health Education in waiting room	5	20.8	40	32.3	85	33.7	0.435
Media (internet or social media)	6	25.0	31	25.0	62	24.6	0.996
Other	0	0	0	0	0	0	NA

Regarding the major health education needs (Figure 1), most of the inpatient 75% needed health education about their own illnesses, followed by health education on lifestyle modification. Around 54.8% of the out-patients needed heath education about the lifestyle changes. Some 42.7% wanted health education about their own illness, while around 38.7% patients desired to receive some education regarding prevention of diseases. Majority of the primary care patient 52.4% needed education on lifestyle modification, followed by medical information about their own illness (44.8%) and how to prevent disease (36.1%).



*A: Medical information about own illness; B: Coping with own illness; C: Preventing complication of own illness; D: Lifestyle modification (e.g. diet, exercise, weight loss); E: Taking own medication; F: Periodic preventive examinations; G: How to prevent diseases; H: Use of medical equipment; I: Unhealthy practices (e.g. smoking); J: Others.

Overall, majority of the participants (32.3%) reported that the obstacles they faced in health education comprised mainly of unexplained medical terms (25% inpatient, 43.5% outpatient and 27.4% primary care). Around 21.3% thought that health education was delivered in a different language (29.2% inpatient, 21.8% outpatient and 20.2% primary care). Likewise, a similar percentage of participants reported that the venue of education was also uncomfortable (20.8% inpatient, 14.5% outpatient and 24.6% primary care). About 21% reported that there was insufficient time to answer questions (41.7% inpatient, 19.4% outpatient and 19.8% primary care). “Contradictory messages delivered by different providers” was also a major obstacle, faced by some 20.3% of the participants. Other significant obstacles reported by the study participants included, teaching too fast (17.3%), inadequate listening by the instructors (13.0%), too much information to take in (10.3%), information not easy to understand (10.5%) and attitude/approach of teaching providers (7.5%), see (figure 2).



a: Unexplained medical terms; b: In-sufficient time to answer questions; c: Different language; d: Inadequate listening by teaching provider; e: Too much information to take in; f: Information not easy to understand; g:Contradictory message from different providers; h: Teaching too fast; i: Uncomfortable place; j: Attitude/approach of teaching providers; k: others.

4. DISCUSSION:

A cross sectional survey was conducted during a period of six months in 2017 to assess the needs of health education services among attendees of AKMICH. The survey participants (400) consisted of equal number of male and female with mean age of 37.08 years. Majority were employed and literate. Overall, most of participants had received some health education, where doctors were the most common providers of health education and they had received it at health education clinics. About 40% of the study population was satisfied with the health education provided to them; however, in another part of the survey, 74.6% reported that they still need health education on various other topics.

The study assessed health education need of attendees of different department of AKMICH, i.e. inpatient, out-patient and primary care clinics. Study findings indicated some statistically significant differences in various aspects of need assessments and obstacles faced by the participants. Although majority of the primary care participants stated that they had received health education advice, most of the inpatient and out-patient also stated that they not received

any advice at the hospital. This indicated that the provided health education was not adequate to satisfy the needs of all the patients. Another study also pointed out the same issue and reported that the main possible hurdle was the shortage of trained health educators, lack of time for the providers and costs involved in disseminating health education [15].

When we assessed patient satisfaction about the health education services, we found out that $2/5^{th}$ of the participants were satisfied with the provided health education, which is contradictory to the another study [15]. However, another $2/5^{th}$ also responded that they were sometimes satisfied, while sometimes not. Similarly, another study reported the same results and emphasized on the need of greater efforts in this regards [16]. This study also indicated that inpatient participants mostly received health education from doctors and nurses, while outpatient and primary care attendees received it from doctors and health educators. They also preferred doctors and health educators for the provision of health education, supported by the literature as well [15,16]. Patients showed higher level of satisfaction and trust, when they received health education by their physician [17-20].

A large number of inpatient participants received health education through health education clinics face to face, while majority of out-patient and primary care patient received it through printed educational material. However, majority of the participants from all three departments indicated that their preferred method was a health education clinic based on one to one method. One benefit of this approach is that the patient feels comfortable, whereas it also allows the patient to interact with the education provider and discuss their personal needs [21,22]. This approach can also help in overcoming the common hurdles faced and reported by the majority of the respondents such as insufficient timing and inadequate listening etc. Although only $1/4^{th}$ of the study participants preferred media as source of health education, a study by Chou et al suggested that e-learning can be an exceptional approach for the promotion of patients health [23].

Regarding the needs of health education, different patients reported different needs. Majority of the in-patient and out-patient participants sought knowledge about their own illnesses and lifestyle modification, while most of the primary care patients desired to receive education on the prevention of diseases. Many other studies have also reported that patients indeed want education about the prevention of disease [24,25] and about their own illnesses [20,25,26]. Various studies have also shown that the higher the patient satisfaction is with

educational services, the better will be the quality of health care and health outcomes [27,28]. It is easy for most people to adopt a healthy lifestyle simply through health education and community awareness, which eventually not only helps in prevention of various preventive diseases but also lowers the risk of complications [29].

The strength of the study was the use of random selection of the participants along with ensuring an appropriate sampling strategy. The questionnaire was tested in a pilot phase to ensure the quality and face validity of the data collection tool. Similarly, certain limitations existed during the research process. First, across-sectional study design was used which makes it difficult to determine any causative relationship. Secondly, the study was done in Al-Kharj Military Industries Corporation Hospital thus limiting the generalizability of these results to a larger region.

5. CONCLUSION:

Results of our study were found to be consistent with the previous researches from Saudi Arabia. Health education services are important to and much demanded by Saudi population. It can therefore be safely concluded that different patient populations have diversified needs of health education. Face to face health education clinics and delivery of health education by doctors were found to be most preferred modes of health education delivery. Therefore, it is suggested to incorporate health education services during clinical visits of patients. Physician or nurses should give ample knowledge to patients about their illnesses and encourage them about lifestyle changes as this can prompt better health behaviors and hence better outcomes. Regular programs must also be conducted at the hospitals for publicizing knowledge for prevention of different diseases.

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