Consumer-oriented evaluation of the service provided by the department of health education and information in Alexandria, Egypt

Original Article

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ABSTRACT

Background: Assessing consumers' satisfaction with health education services can help in monitoring the quality of provided service and understanding consumers' perceptions and utilization patterns of the service.

Materials and Methods: A cross-sectional descriptive study targeting consumers attending the health education sessions provided by Alexandria Department of Health Education and Information (DHEI) at different governmental health facilities and nongovernmental organizations was performed. A simple random sample of 400 participants was interviewed using an interview questionnaire assessing respondents' socioeconomic characteristics, health literacy, attitude toward health education services, and satisfaction with the health education service provided by the DHEI..

Results: Approximately 70% of the consumers' sample showed fair health literacy level. Most of the sample mentioned physicians a credible source of health knowledge followed by 58.8% who selected health education sessions as another trusted health information source. Overall, 90% of the sample was highly satisfied by the service overall. Behavior and skills of the service providers were the most satisfying aspects, whereas health education materials obtained the least satisfaction. Consumers' educational level and healthcare affordability proved to have a significant positive influence on their satisfaction (β=0.307 and 0.191, respectively) whereas occupation and family income showed a significant negative influence (*P<0.001*).

Conclusion: The service provided by Alexandria DHEI is highly satisfying to its target audience mainly in terms of providers and accessibility. Enhancing the technical skills of the department staff through training is highly recommended. The department is also recommended to advocate for the credibility of social workers and health visitors as health educators among the community.

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Key Words: Consumers, consumer orientation, health education service, health information, health literacy, satisfaction

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INTRODUCTION

The health market has markedly shifted toward consumer orientation and patient centeredness[1]. Social marketing which is central to health education bears consumer orientation as a fundamental pillar to carry on its strategies[2]. One critical dimension for evaluating health services is the appraisal from consumers' point of view. Consumers' satisfaction refers to the overall consumer attitude toward the service and its provider, with an emotional reaction to the difference between what consumers anticipate and what they receive, regarding the fulfillment of some needs, goals, or desire[3,4]. Assessing consumer satisfaction with the service they receive provides a rich database for different stakeholders to monitor the quality of provided service and understand consumers' perceptions and utilization patterns of the service[5,6].

Various determinants were deemed to predict degree of consumers' satisfaction. Consumer characteristics such as demographic factors, socioeconomic status, and general health status are among such predictors. Attributes related to the service include the way the service is delivered, the setting in which it is provided, as well as characteristics and experience of the provider[7,8]. Consumer satisfaction measuring tools should incorporate dimensions of technical,

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interpersonal, social, and moral aspects of the service. The correlation between demographic factors such as age, sex, health status, and level of education with consumer satisfaction can also be established in different research tools. Although service providers cannot practically tackle nonmodifiable factors influencing satisfaction, such as demographics, understanding such correlation can help readjust the service provision to adapt more to consumers' background[9].

In health education, like any other health service, consumer satisfaction is an indispensable tool for service evaluation and quality improvement. In health education, cultural sensitivity of the provider and the interventions, on top of other provider-related factors like credibility and communication proved to have the upper hand in determining audience satisfaction[10]. The Department of Health Education and Information (DHEI) affiliated to the Directorate of Health Affairs principally targets individuals seeking different health services at various governmental health settings upon which the DHEI staff members are distributed. The department services also target audience at different community settings and civil organizations in addition to outreach activities and campaigns. The present study aimed at assessing consumers' perspectives and satisfaction about the health education services provided by the DHEI.

MATERIALS AND METHODS

Study design and settings

A cross-sectional descriptive study design was used. The study targeted audience receiving health education services provided by Alexandria DHEI at different governmental health facilities and nongovernmental organizations.

Sampling

To detect the level of satisfaction among consumers of the health education services provided by the DHEI, a minimal sample size of 384 consumers was calculated based on an assumption of satisfaction=50%, precision of 5%, and $\alpha = 0.05$. A random sample rounded to 400 consumers (attendants of different health education sessions, regardless of the session's topic, type or content) was selected for the study. Of the eight health districts in Alexandria, three districts were selected on the basis of having the highest population densities in Alexandria Governorate. Using stratified random sampling techniques, 10 peripheral units including primary health centers, hospitals, and civil organizations were selected from each district. All consumers attending health education sessions provided by the DHEI at the preselected settings were invited to participate in the study, and those who verbally consented to participate were enrolled until the entire sample size was fulfilled. The selected civil organizations were visited only once to avoid re-enrollment of the same subjects receiving different social services at the organization at different times. The selected preventive and curative facilities were revisited till the whole sample size of consumers was fulfilled.

Data collection methods

Data was collected through face-to-face interviews during the period from April 2015 to June 2015 using a precoded interview questionnaire. The questionnaire was developed after reviewing a number of references concerning socioeconomic standard measurement[11], health literacy measurement[12,13] and consumer satisfaction[14,15]. The audience of DHEI educational sessions was interviewed in the setting after attending the health education session.

The questionnaire is composed of four sections. The first section involved the sociodemographic profile of the study participants. Updated Fahmy and El-Sherbini socioeconomic scoring system[11] was used to categorize the socioeconomic level of participants. The used scale included data about education and occupation of the respondent and spouse, family members, home sanitation, possessions, economic status, healthcare, and source of health information. Scores of different socioeconomic domains were summed up with a maximum total score of '84'. Socioeconomic level was classified into very low (<25%), low (25% to <50%), middle (50% to <75%), and high (75% +) levels.

The second section of the questionnaire aimed at measuring the general health literacy of the consumers through combining the Single Item Literacy Scale (SILS)[12] and relevant items of Medication Understanding and Use Self-Efficacy[13] instruments. The first item in the used scale was the SILS question, 'how often the respondent needs someone's help to understand health instructions'. Other items assessed the ability of the respondent to obtain, understand, and apply health information. The SILS question had three response options, which were scored as follows: 'always=0', 'sometimes=1', and 'never=2'. Other health literacy items were scored on a three-point rating scale with response options from 'never' to 'always', scored from '0 to 2'. Literacy level was calculated as a percentage of the maximum total score of '20' and categorized as 'high' if exceeding 80% of the total score and 'poor' if below 60%.

The attitude of consumers toward health education services was assessed in the third section through a five-point Likert scale, option ranging from 'strongly disagree' to 'strongly agree'. Attitude items were scored from '0 to 4', where '0' indicated strong disagreement with health education services and '4' signified the strong agreeing position. Maximum total attitude score was '32'. Overall attitude was considered 'positive' if total score exceeded 66.6% of the total, 'neutral' if score ranged between 33.3 and 66.6%, and 'negative' if lower than 33.3%.

The fourth section examined the satisfaction of consumers with six domains of the provided service:

(i) effectiveness of the service in raising awareness and modifying behavior, (ii) behavior and skills of the DHEI health educators, (iii) the appropriateness and quality of the used teaching methods, (iv) the quality of the provided educational materials, (v) accessibility to the provided health education activities, and (vi) the overall satisfaction with the service. Consumers' satisfaction with different items was assessed on a five-point Likert-like scale ranging from 'very satisfied' to 'very dissatisfied'. The response of each statement was scored from '0 to 4' with higher score denoting higher satisfaction. This section included 40 items with a maximum total score of 160. Consumers' satisfaction was deemed 'high' if total score exceeded 66.6% whereas poor satisfaction was considered if satisfaction scores were below 33.3%.

Statistical analysis

Collected data was revised, coded, and fed to statistical package for the social sciences, version 21 (SPSS; SPSS Inc., Chicago, Illinois, USA). Multiple linear regression was used to examine the socioeconomic determinants of consumers' overall satisfaction. Five variables were entered into the model including age, education and occupation of the respondent, along with family income and access to healthcare. P value less than or equal to 0.05 was considered to be statistically significant with 95% confidence level.

RESULTS

The mean ±SD age was 45.17±13.36 years, and the majority (69.25%) were females. The major two groups of the consumers' sample have basic education, with 27.25% who finished preparatory education, and a relatively smaller percentage (25%) were graduated from secondary school. Overall, 67% of the sample resided in semiurban and slum areas. Urban residents formed 22.25% of the sample, whereas residents of rural areas represented 10.75%. The highest percentage of the sample (40.75%) claimed that their income was just sufficient to meet routine expenses, whereas 30.5% reported that they were in debt (Table 1). None of the studied sample was of high socioeconomic level, whereas 71.8% of the sample were classified as being of low level (Fig. 1).

Table 1: Sociodemographic characteristics of the studied sample of consumers of Alexandria Department of Health Education and Information services

Sociodemographic characteristics	n (%)
Age (years)	
Mean ±SD	45.17±13.36
<30	81 (20.25)
30–40	58 (14.50)
40–50	69 (17.25)
50–60	133 (33.25)
60+	59 (14.75)
Sex	
Male	123 (30.75)
Female	277 (69.25)
Education	
Illiterate	11 (2.75)
Reads and writes	47 (11.75)
Primary	56 (14.0)
Preparatory	109 (27.25)
Secondary (general/technical)	100 (25.0)

Intermediate institutes	63 (15.75)
University	14 (3.50)
Occupation	
Nonworking/housewife	119 (29.75)
Unskilled manual worker	124 (31.0)
Skilled manual worker/farmer	76 (19.0)
Semiprofessional/clerk	81 (20.25)
Residence	
Urban	89 (22.25)
Semiurban/slum	268 (67.0)
Rural	43 (10.75)
Family income	
Indebt	122 (30.50)
Just meet routine expenses	163 (40.75)
Meet routine expenses and emergencies	115 (28.75)

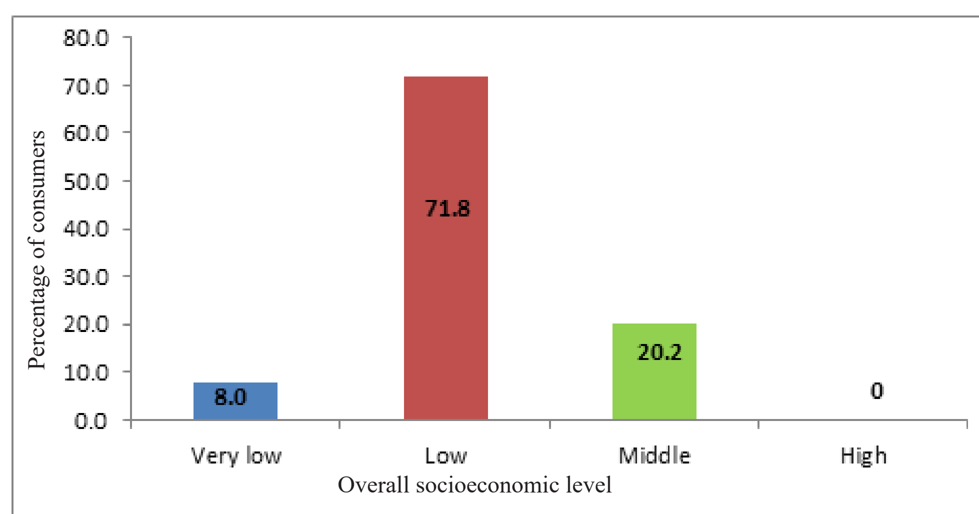

Fig. 1: Distribution of the studied sample of the consumers of Alexandria Department of Health Education and Information services according to their overall socioeconomic level.

Table 2 presents the distribution of the sample of consumers according to their responses to different items on the health literacy scale. Almost half of the studied sample (49.7%) reported they sometimes needed help to read and understand written health materials. Right timely use of medicine for oneself and family members was said to be usually easy for 87.5% of the sample. Obtaining the required health information from credible sources was said to be usual for 37.7%, whereas 40.7% admitted that they never understood the obtained health information with ease. Ease of communication with the health team on health issues got a 'never' response by 40.3% of the sample, whereas asking for assistance on confusing health matters was usually easy for 52.3%. More than one-third of the sample (35.3%) reported they could easily distinguish between accurate scientific health information and information disseminated for commercial purposes. The ability to apply such information in everyday life situations was said to be usual by 56.5%. The overall mean ±SD percent score of the sample's health literacy was 71.45±8.04. Based on such responses and as shown in Fig. 2, the majority of the sample (69.5%) had a fair health literacy level. The responses of only 7% of the sample reflected a high literacy level, whereas the remainder (23.5%) showed a poor level of health literacy.

Table 2: Responses to different items on the health literacy scale of the studied sample of consumers of Alexandria Department of Health Education and Information services

The health literacy scale	Usually	Sometimes	Never
How often do you need to have someone help you when you read written material from your doctor or pharmacy[a]	30.3	49.7	20.0
It is easy for me to take my medicine or give it to a family member in the right time in the right way	87.5	11.3	1.2
It is easy for me to get the health information I need from trusted credible sources	37.7	50.5	11.8
It is easy for me to understand the health information I get	28.0	31.3	40.7
I can easily communicate with the health team to discuss my health issues	19.7	40.0	40.3
I can easily ask for assistance to enquire about health matters I cannot understand	52.3	35.7	12.0
It is easy for me to distinguish between scientific/correct health information and other commercial information	35.3	41.7	23.0
I can handle and manage unexpected health problems	39.5	38.7	21.8
I can share effectively in taking health decisions	37.0	41.7	21.3
I can easily apply my health knowledge in everyday life situations	56.5	33.3	10.2

N=400.
a: SILS, Single-Item Literacy Scale.

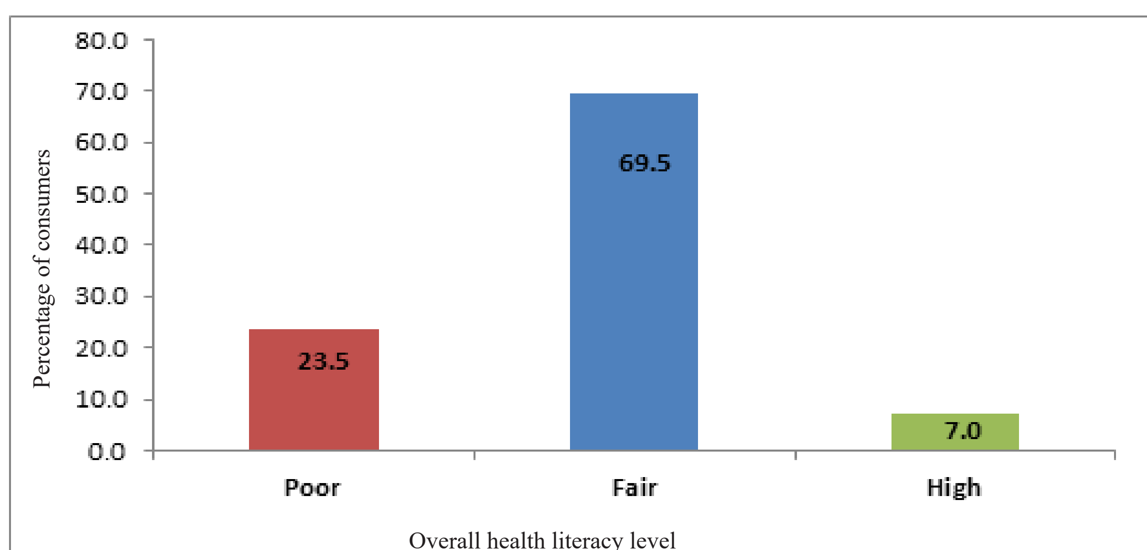

Fig. 2: Distribution of consumers of services of Alexandria Department of Health Education and Information (DHEI) according to their overall health literacy level

Figure 3 depicts the percent distribution of consumers according to their identified credible sources of health information. Physicians were the most frequently identified health information source, mentioned by 89.8%, whereas nurses were selected by 30% of the sample. Health education sessions were chosen as a credible source of health knowledge by 58.8% of the consumers. Approximately one-fifth of the consumers' sample (20.5%) credited their personal experience as a source of health knowledge and a fairly close percentage of 19.8% derived their knowledge from family and acquaintances. Health information gained at schools/college was only acknowledged by 2% of the sample. The role of social workers and health visitors as providers of credible health knowledge was denied by almost the entire sample, as they were chosen by only 0.5% of the sample as a source of health information.

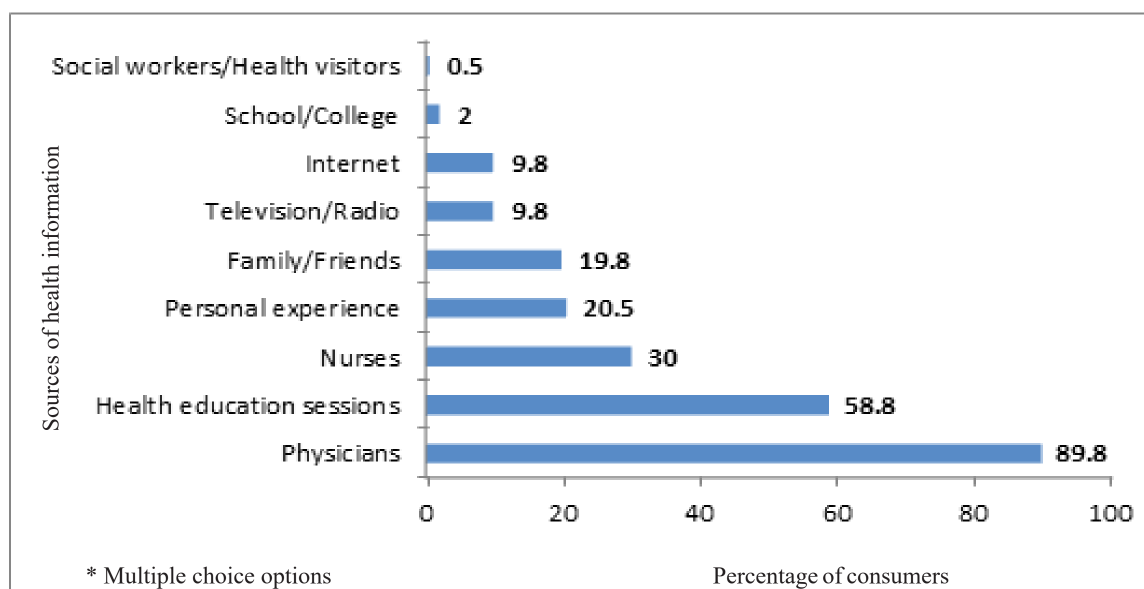

Fig. 3: Distribution of consumers of services of Alexandria Department of Health Education and Information (DHEI) according to their identified credible sources of health information

Consumers were equally distributed regarding their attitude towards health education services with a mean ±SD percent score of 65.91±7.948. Half of the consumers' sample demonstrated a neutral attitude, whereas the other half showed positive attitude toward health education as a service (Fig. 4). Nearly the entire sample agreed on the positive effect of health education services on health promotion and public health knowledge, whereas 83.5% agreed that health education services can help people have a better quality of life. Almost 84.3% of consumers agreed that health education services discuss issues that are relevant to their health priorities. Close percentages of the consumers' sample (60.8%) believed health education is effective in modifying their health behaviors, and 74.8% believed health education is protecting their families' health. However, more than 70% of consumers agreed that the provided health education service helped solving their own or their families' health problems (Table 3).

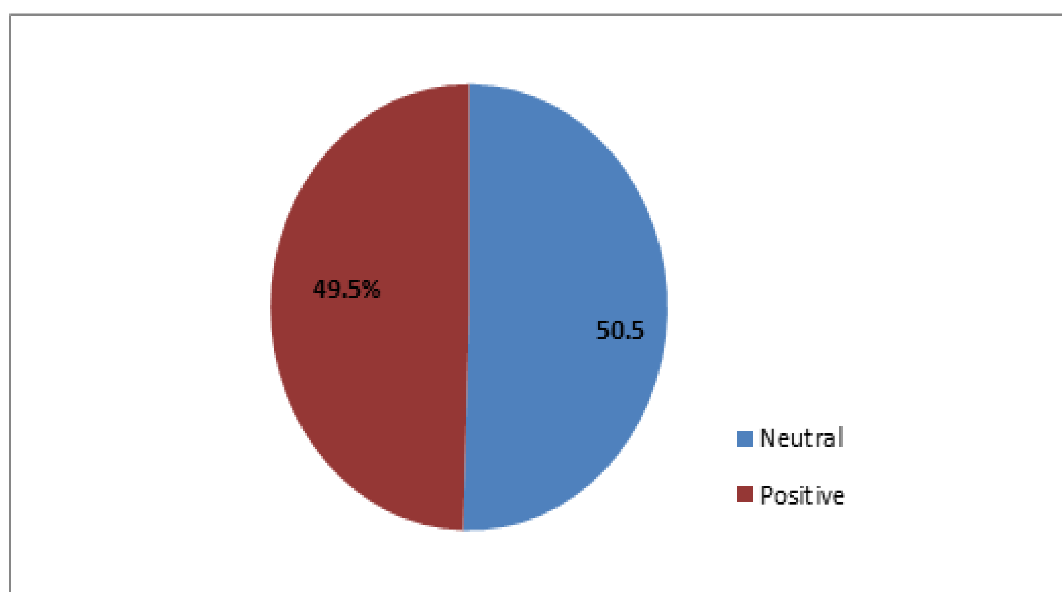

Fig. 4: Distribution of consumers of Alexandria Department of Health Education and Information (DHEI) services according to their overall attitude towards health education services

Table 3: Responses to different attitude statements of the studied sample of consumers of Alexandria Department of Health Education and Information

Attitude	Agree	Neutral	Disagree
Health education activities discuss issues that are relevant for me and my health priorities	84.3	5.7	10.0
Health education activities are ineffective in modifying my health behavior[a]	19.4	19.8	60.8
Health education activities will help in protecting my own/family's health and preventing ill-health	74.8	15.5	9.7
Health education activities do not help solving my own/family's health problem[a]	9.7	19.8	70.5
Health education is important for promoting my own/family's health	99.3	0.7	0
It is useless to establish a specialized department exclusively to provide health education services[a]	9.7	20.3	70.0
Health education service is useful in raising the public health knowledge	97.3	0	2.7
Health education services help people have a better quality of life	83.5	6.5	10.0

N=400.
a: Negative statement (reversed score).

Table 4 explains the percent distribution of the studied sample of consumers targeted by the Alexandria DHEI according to their satisfaction with different items of the service aspects. Approximately 82% of consumers were generally satisfied with the health education service. Approximately 90% of the sample were satisfied with the quality of the provided educational activities. Although 100% of the sample were satisfied with the effectiveness of the provided health education service in raising awareness, less than half of them (48.7%) were satisfied with the effectiveness of the service in modifying behavior. The behavior and skills of the service providers obtained the highest mean ±SD percent score (87.31±7.74) among other aspects. The entire sample proclaimed their satisfaction with the providers' health communication skills, health knowledge, ability to attract attention, friendliness, respect, patience, acceptance, and nonjudgmental attitude. The various properties of the health message including concision, understandability, and updating met the satisfaction of around 90% of the sample. Even though the used educational methods were satisfactorily easy and clear for 79% of the sample, the variety, attractiveness, and sufficiency of the methods were not as satisfactory for consumers (40, 59.9, and 69.2%, respectively). The used place for providing the educational activities was satisfying as an educational setting for the whole sample. Approximately 90% of the sample was satisfied with the amenity features of the used setting such as ventilation, lighting, and seating. The sites where the DHEI activities are provided were satisfyingly accessible to 80.2%, whereas the timing of the activities fitted the life routines of 60.2% of the sample. The least scored aspect of the provided health education service is the satisfaction with the provided educational materials with a mean ±SD percent score of 51.44± 16.27. The sufficiency of the provided educational materials for the number of audience dissatisfied a majority of 80% which overshadowed their satisfaction with different criteria of the provided materials. Figure 5 clearly demonstrates that 90.2% had an overall high satisfaction level with the health education services provided by Alexandria DHEI.

Table 4: Satisfaction with detailed items of the service aspects as reported by the studied sample of consumers of Alexandria Department of Health Education and Information

Satisfaction with	Satisfied	Neutral	Dissatisfied
Effectiveness and quality of the provided service			
Overall quality of the educational activities	90.2	9.8	0
Sufficiency of the educational activities	70.2	20.0	9.8
Effectiveness of the service in changing attitudes and beliefs	100	0	0
Effectiveness of the service in modifying behaviors	48.7	30.8	20.5
Recipients' participation in planning and implementation	31.0	19.5	49.5
Effectiveness of the educational activities in raising awareness	100	0	0
Behavior and skills of the service providers			
Skills of the staff in communicating health information	100	0	0
Ability of the staff to modify behaviors	59.7	30.5	9.8
Patience and acceptance of staff when handling audience questions	69.7	30.3	0
Respect and friendliness of the staff towards audience	100	0	0
Maintaining audience privacy and confidentiality	60.7	39.3	0
Sufficiency of the staff health knowledge	100		
Ability of the staff to attract audience attention	100		
Staff's avoidance of judgment or discrimination against individuals	100		
Appropriateness of the used educational methods			
Ease and clarity of the methods	79.0	21.0	0
Methods' respect of the audience religious and social norms	100	0	0
Use of audiovisual aids (AVAs)	49.9	20.5	29.6
Sufficiency of the methods to cover the educational activity subject	69.2	10.3	20.5
Variety of the methods used during the activity	40.0	20.5	39.5
Appropriateness of the methods to audience learning level	89.5	10.5	0
Attractiveness of the methods	59.9	30.3	9.8
Cultural competence of the methods	100	0	0
Concision and understandability of the health message	89.5	10.5	0
Updating of the health message	90.2	9.8	0
Suitability of the health message to the audience literacy level	79.2	20.8	0
Quality of the provided educational materials			
Sufficiency of the number of materials to cover all audience	20.0	0	80.0
Effectiveness of the materials as a reminder of the health message	20.4	20.8	58.8
Paper and printing quality of the materials	30.2	20.8	49.0
Quality of the provided educational materials			
Readability and understandability of the materials	19.9	40.3	39.8
Attractiveness and outlook of the materials	19.9	40.3	39.8

Relevance of the materials' topics to audience	10.2	40.3	49.5
Presence of answers to most health queries in the materials	10.2	40.3	49.5
Ease of access to DHEI services			
Ease of knowing time, subject, and place of upcoming activities	59.2	21.3	19.5
Ease of accessibility and reach to the sites where activities are held	80.2	9.3	10.5
Suitability of the activities' schedule with audience life routines	60.2	29.5	10.3
Convenience of the used place as an educational setting	79.9	10.3	9.8
Ventilation and lighting of the educational setting	90.2	9.8	0
Sufficiency of seating for all audience in the educational setting	89.5	10.5	0
Suitability of the used place as a learning conducive setting	100	0	0
Overall service provided by the DHEI			
General satisfaction with the health education service provided	81.7	18.3	0

N=400.
DHEI, Department of Health Education and Information

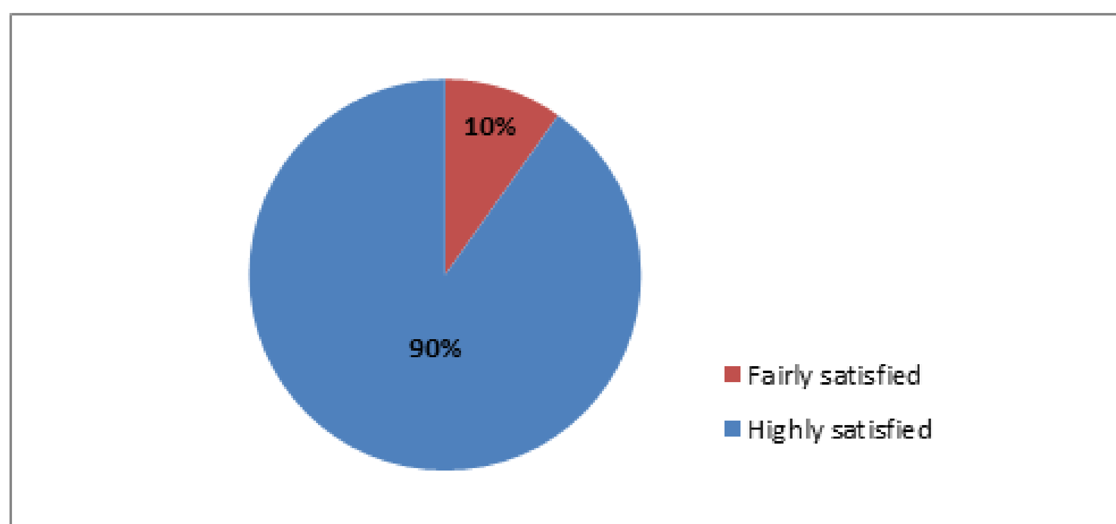

Fig. 5: Distribution of consumers of services of the Alexandria Department of Health Education and Information (DHEI) according to their overall satisfaction level

Multiple linear regression summarized in Table 5 showed a significant influence of a number of socioeconomic characteristics on consumers' overall satisfaction with the provided health education services. Respondent's education and affording access to paid healthcare had a positive significant influence on overall satisfaction with the provided services (*P <0.01*). On the contrary, occupational level of consumers and level of family income negatively influenced their overall satisfaction (*P<0.01*).

Table 5: Summary of stepwise multiple regression models for consumers' satisfaction by their socioeconomic characteristics

Unstandardized coefficients			Standardized coefficients		
Model	B	Standard error	β	t	Significant
Constant	83.077	2.792		29.756	0.000
Age	-0.047	0.045	-0.094	-1.031	0.303
Education	0.582	0.172	0.307	3.391	0.001
Occupation	-3.978	0.568	-0.862	-7.004	0.000
Healthcare affordability	0.096	0.023	0.191	4.083	0.000
Family income	-3.660	0.439	-0.425	-8.344	0.000

$r2=0.375$.

DISCUSSION

Most Alexandria DHEI consumers acknowledged the role of health education in raising public health knowledge, promoting health, and helping people to have a better quality of life. This study highlighted the level of satisfaction of the department consumers with different aspects of the department services, which may be used for monitoring the health education services and updating policies to improve the quality of these services.

Overall, 90% of the DHEI consumers were highly satisfied with the provided health education services. Evaluating consumers' satisfaction with health education has frequently been a part of evaluating the provided health care services over all. A study performed in Jimma University Hospital, Ethiopia (2011) showed that a lower percentage of consumers (64%) were satisfied by health education provision at the hospital in comparison with the current study[16]. In Muscat, a study was performed to assess consumers' satisfaction with primary health care (PHCs) in the Omani capital. Totally, 81% of participants were satisfied by the received services. In concordance with the present study, the social skills of the staff received the highest mean percent score compared with other aspects of the provided service. The provision of health education materials was in no better condition at Muscat PHCs than it was at Alexandria DHEI[17]. In Riyadh, health education services offered at PHCs were specifically studied from consumers' point of view. In contrary to the present study, the higher majority of the Saudi sample reported receiving printed health education materials at some point of their visit at the PHC, which were also highly satisfying to the majority of the sample. However, a lower percentage of the Saudi participants were highly satisfied with the overall health education services provided at Riyadh PHCs compared with highly satisfied consumers of Alexandria DHEI services[18]. Materials are undeniably pricey, in terms of designing expertise and printing costs. Facing other priorities with a limited budget for different health services, materials are commonly sacrificed.

The entire sample perceived the provided service as satisfyingly effective in raising awareness and modifying beliefs and attitudes. However, the decreased consumers' satisfaction with the effectiveness of these activities in changing behaviors as well as the lack of participation in activity planning and implementation reduced the total consumers' satisfaction with the quality and effectiveness of the service.

Ease of access including the convenience of the place, its location, and amenities appeared more satisfying to a majority of consumers than did the timing of the activities. High satisfaction reported by the DHEI regarding service accessibility was in concordance with the results of a study performed in North India, to assess patients' satisfaction toward the services received at rural health centers. Accessibility in terms of proximity to homes was the most cited reason by Indian participants for seeking services at these centers. The pleasant attitude of the staff was prioritized to the skills of the doctors at these centers[19]. Probably, most PHCs enjoy the advantage of proximity and ease of reach to residents of their catchment areas. Health education services offered during waiting times or as an extension of the originally sought health service are mostly convenient for target audience, especially if the received health message is relevant and the provided health service is timely and of good quality. Thereby, different services, including health education, offered at peripheral health units are usually satisfactorily accessible to their beneficiaries. It also appears that the first-line staff such as health educators, nurses, and PHC staff tend to develop their social and communication skills, even if they pay less attention to raising their technical competencies. Notably, healthcare staff is commonly a trusted source of health knowledge for different population segments. Therefore, the staff carrying on the responsibility of health education must bear the continuous burden of updating their health knowledge and teaching skills to effectively fulfill their trusted role in the community.

Physicians were typically regarded as a credible source of health knowledge by almost 90% of the consumers' sample. Oppositely, nurses were identified as an information source by less than one-third of the sample. This was rather unexpected, as nurses commonly have more frequent contact with consumers and are more likely to carry on health education activities. Besides, for a sample with a majority having fair to poor abilities to communicate with the health team, nurses are more plausible candidates for health communication. The nurses' work overload might definitely interfere with their health education tasks. However, it is the negligible recognition of social workers and health visitors that poses a challenge to the DHEI, considering that social workers and health visitors constitute a considerable percentage of the DHEI staff.

Exploring the influence of various socioeconomic determinants on consumers' satisfaction with the provided DHEI services in the present study showed a positive significant effect of consumers' education and a negative effect of their income level on their overall level of satisfaction. The negative influence of income on consumers' satisfaction was similarly proved by a study evaluating factors influencing patient satisfaction in Iran in 2014. However, education also proved to have a negative influence on satisfaction in opposition to the findings of the present study[20].

Seemingly, the health education service provided by Alexandria DHEI has successfully achieved an overall satisfactory outcome with respect to its target beneficiaries. Still, it is noteworthy that the prevalence of the lower socioeconomic standard among the consumers' sample could have had a considerable share in their relatively high satisfaction. Seeking a facility like health care or NGOs for a certain purpose and receiving an extra unpaid service such as health education might seem like a bonus for lower socioeconomic classes. Being handled courteously and given the impression that their health awareness is valued can be highly satisfying for the majority for such population group no matter what the outcome is on their final health behavior and quality of life. This may have shifted the consumers' evaluation of the service itself to their evaluation of their relationship with the provider.

LIMITATIONS OF STUDY

The study was carried out entirely in governmental health facilities and community organizations where the DHEI provides its services. Thereby, the sample was biased toward consumers of lower socioeconomic standard, who are mostly residents of slum and semiurban areas served by such facilities. The DHEI usually holds its activities in the morning when men are usually at work, which also biased the sample toward a female majority. Limitations owing to the interview questionnaire included the relative difficulty to respond to five-Likert scales especially by a sample mostly of low education, besides the inherent bias of interviews in terms of social desirability.

CONCLUSION

The Department of Health Education and Information in Alexandria provides an overall satisfactory service for its consumers. The Department makes good use of the settings in which it serves its consumers and the staff is skilled at establishing rapport with their audience. However, consumers were not as satisfied with the technical aspects of the service including teaching methods and the ability of the staff to effect an actual behavior change. Health education materials provided by the department are markedly deficient. However, with the health literacy and educational level of the majority of the department's audience, increasing the availability of handouts can help in sustaining the health messages and provide more clues that trigger behavior change. It is also recommended that the department has to enhance the technical skills of its staff through training on health education methods and behavior modification techniques. Advocating for the credibility of social workers and health visitors as health educators among the community is a strenuous task that should be planned for by the department. Different socioeconomic features proved to influence consumers' satisfaction with health education services. Although these features cannot be modified by the department, health education staff is compelled to learn how to tailor their teaching methods and health messages to fit the audience educational, occupational, and economic needs.

CONFLICT OF INTEREST

There are no conflicts of interest

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