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ORIGINAL ARTICLE

Assessment of Health Needs in Sharkia Governorate: Pilot Study

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ABSTRACT

Background: Sharkia Governorate is one of the densely populated governorates with different health needs. They are suffering from both noncommunicable and communicable diseases and rising issues of reproductive health problems. The health needs assessment project aims to assess the most prevalent health problems and priority health needs of Sharkia Governorate inhabitants.

Methods: A pilot study of the health needs assessment project was carried out. A survey of 144 inhabitants was conducted during the medical campaign of Zagazig -Faculty of Medicine at Markaz Awlad Saqr, and also from Zagazig city. The Data Collection team included eight Public Health & Community Medicine Department members and eight Family Medicine Department members. Questionnaires were completed, and anthropometric and laboratory examinations were done. Questionnaires (household and individual questionnaires) were included to investigate common causes of morbidity and mortality in each age group and their satisfaction with provided health services.

Results: Half of the participants were of moderate social class. Gastrointestinal (GIT), respiratory & circulatory health problems were the most frequent health problems among the studied participants in present history (40.3%, 34%, and 30.6%, respectively). Two-thirds of the participants didn't practice sports, and 13.2% were smokers. One-third of the participants have difficulty accessing health services mainly because of the high cost.

Conclusions: The pilot study of the Health Needs Assessment project in Sharkia Governorate revealed that many inhabitants suffered from chronic conditions. Targeted health interventions and improved accessibility to health services in Sharkia Governorate are necessary.

Keywords: Prevalent; Health Problems ;Needs, Health Needs Assessment ;Healthcare Utilization; Community Health ;Health Survey ;Pilot study

INTRODUCTION

Sharkia Governorate is considered one of the largest governorates of Egypt**.** It includes 13 centers, 107 rural local units, 509 villages, 3890 Kafr and manors, and two industrial cities (Tenth of Ramadan - New Salhia). The area of Sharkia Governorate is 4911 km^2. Sharkia Governorate is the third governorate in the

population at the level of Republic after Cairo and Giza Governorates, where its estimated population is approximately eight million inhabitants and the percentage of the population (23% urban - 77% rural)**[1]**. About 11.4% of the population are illiterate, 16.7% are in the lowest wealth quintile, 93% of households have improved drinking water sources, and the total fertility rate is 3.6 **[2, 3].**

Sharkia governorate is one of the densely populated governorates, with one-tenth of its population being poor and one-tenth illiterate **[3]**. They are suffering from both noncommunicable and communicable diseases and rising issues of reproductive health problems.

Concerning non-communicable diseases, like other governorates in Egypt, there is a 24% prevalence of smoking and growing use of shisha tobacco, with 66% of women overweight and 42% obese, and almost three-quarters of the population not involved in vigorous activity, with a 17% prevalence of diabetes, a 40% prevalence of hypertension. Egyptians have an average daily salt intake of 9 grams, nearly double the recommended allowance **[4,5].** Four main groups of non-communicable diseases (cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes) account for 82% of all non-communicable diseases attributable to deaths. The rise in NCDs can be attributed to modifiable risk factors such as unhealthy diets, the use of tobacco, and physical inactivity. The burden of NCDs can be addressed by prevention, reducing exposure to, and increasing the management of these risk factors **[6].** Prevalence of anemia in ever-married women is 24.3% **[3].** Moreover, Communicable diseases such as viral hepatitis prevalence, HBV prevalence Percentage positive on the HBcAb (core antibody) test at 18.3%, HBsAg (surface antigen) test positive at 1.5%, HCV antibody (Chemiluminescence) test positive at 13.9%, HCV RNA test positive at 10.4% and active hepatitis c more than 5% among population 15-59 years old. **[4].**

Among 612,989 adult cases attending 12 district hospitals, the highest attendance rate was 82,167 cases at Zagazig City in 2019. The epidemiology service was notified of 1404 cases of tuberculosis (TB). Tuberculosis (TB) is one of the challenges included in sustainable development goals. **[7].**

Regarding reproductive health, the Percentage of currently married females in the reproductive age group 15-49 using any family planning is 53.7% **[2].**

However, there are no recent studies or surveys assessing their health needs. **The research aim is to improve** the health of Sharika governorate inhabitants by decreasing morbidity and mortality rates.)

The research question is “To what extent are some health problems prevalent among Sharkia inhabitants? What are the priority health problems at Sharkia Governorate?". This pilot study aims to assess the clarity of data collection tools and provide insight into common health problems affecting the studied group.

METHODS

Subjects

This pilot study was conducted on an ***accessibility*** sample collected during the medical campaign of Zagazig - Faculty of Medicine at Markaz Awlad Saqr and from Zagazig city. Ethical approval for all stages of the health needs assessment project, including the pilot stage, was obtained from the University's Institutional Review Board (IRB), Faculty of Medicine **(IRB NO = 542/28. JULY 2024).** All included subjects were fully informed about the nature and objectives of this study, and informed consent was obtained from them. All data were confidential and used only for research purposes, and they were not exposed to any harm or risk and the possibility of withdrawal at any time.

Sample Size

The total sample size for the project was calculated using Open Epi Info according to the following total number of Sharkia governorate population is 8 million, prevalence of hypertension was 40%**[5] .**So, at CI 95% and design effect 4, the sample size was calculated to be 1467. According to proportional allocation between urban and rural areas, 489 are from urban areas, and 978 are from rural areas, which is the percentage of the population (23% urban - 77% rural) **[1].**

To identify the potential issues in the sampling process or data collection tools, this pilot study was carried out on 10% of the total sample size for the project (n=144).

Methods

The primary data tools included two questionnaires ***(household questionnaire and individual questionnaire)*** to detect information about the name and address of the head of the household as well as information about the housing unit of the household, the household size, and some characteristics of the household. Five Public

Medicine and Family Medicine professors revised and validated both questionnaires. Data was collected from 1st September to 30 November 2024

The household questionnaire was used to enumerate all usual members and visitors of the selected households and to collect information on the socioeconomic status of the households. It consisted of two parts: The first part included information on the age, sex, marital status, educational attainment, work status, and relationship of each household member or visitor to the head. The second part included questions on housing characteristics (e.g., the number of rooms, the flooring material, the source of water, and the type of toilet facilities) **[3]. The individual questionnaire was used to** ask the husband or the wife about Common causes of morbidity and mortality in each age group**[8,9**].***Anthropometric measurements*** were taken of weight (KG), height (meter), and BMI (KG/meter^2) **[10].** The **blood pressure** of inhabitants over forty years was measured using a traditional mercury sphygmomanometer after a 5-minute rest period on the left arm of seated subjects **[11].** ***Laboratory investigations:*** **Glycosylated hemoglobin (HbA1c)** for adults over 40 years, and the hemoglobin for women in childbearing period and children (who knew their near investigation results). **Secondary data (*Census Data)***: we used the latest census to understand population distribution and characteristics. **Records** in the primary health care unit at Azhar El Qasasin, Markaz Awlad Saqr (Immunization records, Antenatal care records, Family planning records, outpatient visits, hospital statistics, patients' satisfaction records, mortality records, laboratory records) were reviewed.

Quality Control was done regularly to check data for completeness and consistency**.**

Administrative considerations

Official permissions were given by the Dean of the Faculty of Medicine in collaboration with the Deputy Minister of Health in the Sharkia Governorate.

Statistical Analysis

All data were collected, tabulated, and statistically analyzed using IBM SPSS Statistics for Windows, Version 23.0. Quantitative data were expressed as the mean ± SD & (range), and numerical and percentage data were used to express the qualitative data.

RESULTS

Table (1) shows that the age of the studied participants ranged from 15 to 80 years, with a mean of 40.17 years. Regarding sex and marital status, 64.6% were female, and 69.4% were married. Almost two-thirds of the participants were husband and wife, and their families consisted of husband, wife, and siblings. The most frequent education level was university (43.1%), and almost two-thirds worked. Finally, half of the participants were of moderate social class.

Table (2) shows that gastrointestinal (GIT), respiratory & circulatory problems were the most frequent health problems among the participants studied in the present history (40.3%, 34%, and 30.6%, respectively).

Figure (1): The present history of the studied participants shows that the most frequent problems were GIT problems.

Table (3) shows that two-thirds of the participants don't practice sports, 13.2% smoke, 38.9% of them sleep from 6 to 7 hours, and 56.9% have anxiety (most frequently from financial status). Family social support was reported among 72.9% of the participants, while psychological support was only reported in 24.3%.

Table (4) shows that almost half of the participants (50.7%) have a health facility less than 1 km away, but one-third have difficulties accessing health services, mainly because of high costs. About two-thirds of the participants used the medical services; the most frequent were vaccination and consultation. The most frequent cause for not using the health unit was lack of medication; more than seventy percent suggested providing medication to improve health services. Water pollution is the most reported health challenge, and regular routine investigations were the most frequently reported needed program.

Table (5) shows that 23.6% of the examined studied participants had class I obesity, 7.3% had class II, and 6.5 had class III. Regarding blood pressure, 10.5% were hypertensive. HbA1c showed that 9.8% had diabetes and 31.7% prediabetic. Anemia was reported in 71.7% of females.

Figure (2) shows that the overall frequency of satisfaction of the participants studied is neutral (38.9%), followed by 34% being satisfied.

Table (1): Demographic data of the participants

Variable		(*no*=144)	
Age: (years)	*Mean±SD**	40.17±14.14	
	Range	15-80	
Variable		**No**	**%**
Sex:	*Male*	51	35.4
	Female	93	64.6
Marital status:	*Single*	24	16.7
	Married	100	69.4
	Divorced	5	3.5
	Widow	15	10.4
Status at the house:	*Grandfather*	8	5.6
	Grandmother	11	7.6
	Husband	28	19.4
	Wife	64	44.4
	Son	13	9.0
	Daughter	15	10.4
	Grandson	2	1.4
	Granddaughter	3	2.1
Family composition:	*Husband & wife*	8	5.6
	Husband, wife & relative	11	7.6
	Husband, wife & sibling	98	68
	Husband, wife, sibling & relative	27	18.8
Education	*Illiterate*	8	5.6
	Read & write	3	2.1
	Literacy eradication	6	4.2
	Primary education	2	1.4
	Preparatory education	7	4.9
	Secondary education	5	3.5
	Technical education	38	36.4
	University	62	43.1
	Postgraduate studies	13	9.0
Working:	*No*	53	36.8
	Yes	91	63.2
Social class:	*Low*	35	24.3
	Medium	77	53.5
	High	32	22.2

*SD: Standard deviation

Table (2): Present history of the studied participants

Variable		Present (*no*=144)	
		No	%
Respiratory problems:	*No*	95	66
	Yes	49	34
Type:	*Bronchitis*	31	21.5
	Pneumonia	4	2.8
	Allergy	18	12.5
	Sinusitis	2	1.4
	Dyspnea	0	0.0
Circulatory problems:	*No*	100	69.4
	Yes	44	30.6
Type:	*HPT*	26	18.1
	Cardiac disease	7	4.9
	Angina	0	0.0
	Obesity	6	4.2
	DM	12	8.3
	Anemia	1	0.7
	Hyperlipidemia	2	1.4
	Hypotension	1	0.7
Psychological problems:	*No*	115	79.9
	Yes	29	20.1
Type:	*Depression*	13	9.0
	Anxiety	23	16.0
	Alzheimer	3	2.1
Neurological problems:	*No*	123	85.4
	Yes	21	14.6
Type:	*Neuritis*	20	13.9
	Strokes	1	0.7
	Disc prolapse	2	1.4
GIT problems:	*No*	86	59.7
	Yes	58	40.3
Type:	*Peptic ulcer*	16	11.1
	Colon disorders	35	24.3
	Gall bladder	10	6.9
	Gastroenteritis	3	2.1
	Hepatic disorders	2	1.4
	Fatty liver	1	0.7
Urological problems:	*No*	119	82.6
	Yes	25	17.4
Type:	*Renal failure*	1	0.7
	Renal stone	23	16
	UTI	1	0.7
Infectious disease:	*No*	136	94.4
	Yes	8	5.6
Type:	*HBV*	2	1.4
	HCV	3	2.1
	Bilharzia	3	2.1

Variable		Present (*no*=144)	
		No	%
Cancer:	*No*	144	0
Hereditary disease:	*No*	142	98.6
	Yes	2	1.4
Type	*Hair loss*	1	0.7
	Protein C deficiency	1	0.7
Other	*Bone problems*	8	5.6
	Headache	1	0.7
Maternal complications:		(no=93)	
	No	81	87.1
	Yes	12	12.9
Type:	*Pregnancy complications*	11	11.8
	Delivery complications	1	1.1
	Hysterectomy	0	0

Table (3): Habits, psychological & family support among the studied participants

Variable		(*no*=144)	
		No	%
Sport/week:	*No*	99	68.8
	Once	25	17.4
	2-3	8	5.6
	>3	12	8.3
Smoking:	*No*	122	84.7
	Yes	19	13.2
	Ex-smoker	3	2.1
Sleeping hour:	*<6*	52	36.1
	6-7	56	38.9
	8	28	19.4
	>8	8	5.6
Anxiety:	*No*	62	43.1
	Yes	82	56.9
Causes:	*Work*	27	18.8
	Financial status	49	34
	Family	45	31.3
	Health	12	8.3
Psychological support:	*No*	109	75.7
	Yes	35	24.3
Family social support:	*No*	39	27.1
	Yes	105	72.9

Table (4): Health services utilization among the studied participants

Variable		(no=144)	
		No	%
Nearest health facility distance from home:	*< 1km*	73	50.7
	1-5 km	46	31.9
	5-10 km	13	9

Variable		(no=144)	
		No	%
	> 10 km	12	8.3
Difficulty in accessing health services:	*No*	96	66.7
	Yes	48	33.3
Why:	*No transportation*	15	10.4
	Far distance	11	7.6
	High cost	18	12.5
	No available services	12	8.3
	Other	3	2.1
Used health services:	*No, I don't know them*	6	4.2
	No, don't use them	41	28.5
	Yes	97	67.4
Type:	*Vaccination*	65	45.1
	Consultation	64	44.4
	Health education	24	16.7
	Family planning	33	22.9
	Laboratory investigation	38	26.4
Causes of not using:	*Most services are not available*	15	10.4
	Loss of confidence	12	8.3
	No doctors	5	3.5
	Lack of knowledge about services	6	4.2
	Unavailability of medication	17	11.8
	Other	7	4.9
Suggestions to improve services:	*Provide medication*	103	71.5
	Announcement for the available services	32	22.2
	Training of HCW	32	22.2
	The presence of doctors in working time	32	22.2
	Availability of new instruments	54	37.5
	No suggestion	12	8.3
Health challenge:	*Air pollution*	49	34
	Water pollution	80	55.6
	Chronic disease	57	39.6
	Lack of health services	48	33.3
Important health programs wish to see:	*Health education programs*	48	33.3
	Routine investigations	90	62.5
	Proper nutrition	47	32.6
	Smoking cessation programs	32	22.2
	Other	9	6.3

Table (5): Frequency of Examination and investigation results among the interviewed individuals

No of the Interviewed persons	Variable		No	%
No=123	**BMI: (Kg/m^2)**	*Underweight (<18.5)*	4	3.3
		Normal (18.5-24.9)	29	23.6
		Overweight (25-29.9)	44	35.8

No of the Interviewed persons	Variable		No	%
		Obese class I (30-34.9) *Obese class II (35-39.9)* *Obese class III (≥40)*	29 9 8	23.6 7.3 6.5
No=105	**SBP: (mmHg)**	*Optimal (SBP ≤ 120)* *High normal (SBP >120-140)* *Hypertension (SBP >140)*	61 33 11	58.1 31.4 10.5
No=41	****HbA1C: (%)**	*Normal (<5.7)* *Prediabetic (5.7-<6.5)* *Diabetic (≥ 6.5)*	24 13 4	58.5 31.7 9.8
No=46 Female	*****Hb: (mg/dl)**	*Normal (12-16)* *Anemic (<12)*	13 33	28.3 71.7
No= 6 Male		*Normal (13.5-17.5)* *Anemic (<13.5)*	6 0	100 0.0

****HbA1C & *****Hb were done previously by certain participants, and they knew their results**

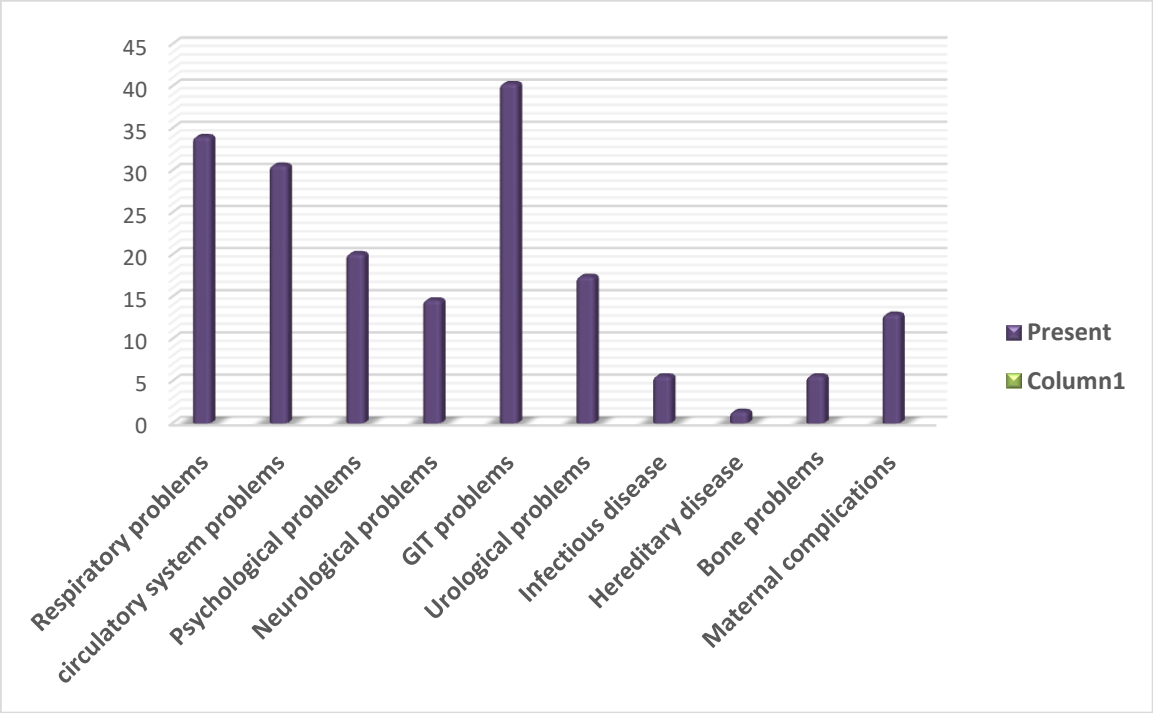

Figure (1): Present History of the studied participants.

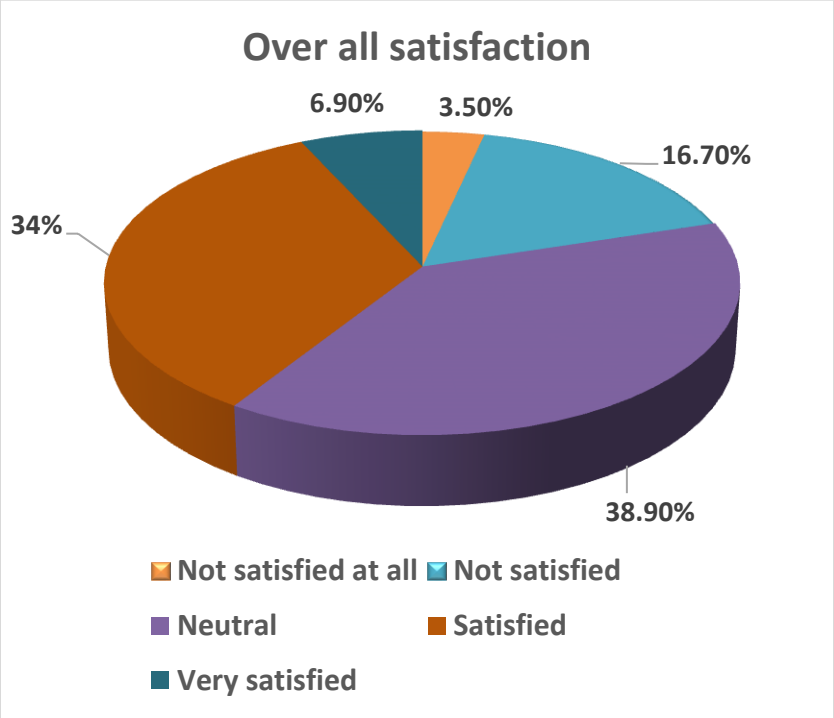

Figure (2): Overall satisfaction among the studied participants

DISCUSSION

A pilot study of the Health Needs Assessment project provides critical insights into Sharkia Governorate's health challenges. The project aims to identify the most prevalent health problems among inhabitants in Sharkia Governorate.

The pilot study was conducted on 144 residents in Sharkia Governorate using semi-structured questionnaires and focus groups. The analysis revealed that 24% were low social class, and this was consistent with Family Health Survey 2022 **[3].** One-tenth were widows, and 3.5% were divorced (vulnerable families). Five percent of the studied sample were illiterates.

Regarding common causes of morbidity, reported health problems were respiratory and gastrointestinal (GIT) infections. The percentage of reported cases of Hepatitis B was 2.1%, Hepatitis C was 3.5%, and bilharziasis was 2.8%. This was consistent with a study on pregnant females in Sharkia Governorate. The prevalence rate of HBV&HCV was 0.17% and 1.7 %, respectively**[12]**. Reported prevalence is usually overestimated.

The prevalence rate of HBV in Egypt has declined after the universal immunization program **[13].** The prevalence rates varied across various parameters, including age and gender.

Fifteen percent of the studied group reported the occurrence of maternal complications. The pilot study revealed that the utilization of complete antenatal services and infant care services is higher in urban than rural health facilities, according to maternal health indicators. It was found that universal geographical accessibility was confirmed with significant differences in financial accessibility regarding residence. Similarly, another study reported a high residence inequality in the utilization of health services as socioeconomic status variably affects service utilization**[14].**

Regarding habits & support among the studied participants, two-thirds of the participants don't practice sports, so the scope of sport must be expanded to include recreation, fitness, and sports activities. Sport is a subset of physical activity that can benefit adults' short- and long-term physical and mental health and social outcomes. As sports have become increasingly important, the need for a new type of specialist, the sports manager, has become apparent. Subsequently, professional preparation programs for sports management have struggled to become established, and they need to be more clearly defined and characterized. This aligns with a

study that presented the results of an updated systematic review of the mental health and social outcomes of community and elite-level sports participation for adults**.** The findings of a review confirm that participation in sports of any form (team or individual) is beneficial for improving mental health and social outcomes among adults[**15].**

Thirteen percent of participants were smokers. As smoking is the single most preventable cause of death worldwide and to achieve greater coverage of smoking cessation, the provider–client interface could be broadened beyond physicians to include nurses and social workers, who can be formally trained to provide such services. These results are based on a study in Hong Kong that reported that future research should focus on developing and evaluating programs that encourage nurses and social workers to provide cessation interventions to exert a much more significant collective impact than doctors can alone**[16].**

Regarding health services utilization among the studied participants, almost half had health facilities less than 1 km away. Still, one-third of the participants had difficulty assessing, mainly because of the high cost. About two-thirds of the participants used medical services; the most frequent were vaccination and consultation. The most frequent cause for not using the health unit was lack of medications; more than seventy percent suggested providing medication to improve health services.

Service accessibility and utilization have become essential aspects of health needs assessment issues. Assessment of physical access to health services is extremely important for planning. Complementary partnerships among the public health, healthcare, and social services sectors can build on the current momentum to address social determinants of health**[17].**

Limitations and Strengths of the study

The strengths of this pilot study include testing the feasibility of using data collection methods and available resources to assess the health needs of the inhabitants of the Sharkia Governorate. In addition, it provides insight into the inhabitants' primary health needs and concerns. However, it acknowledges several limitations and modifications of the data collection tools that should be considered to understand its results comprehensively. The small sample size of the study and accessibility sampling challenges the generalizability of its findings. In addition, its short duration limits its ability to detect the various health needs of the inhabitants throughout the year.

CONCLUSIONS

The pilot study of the Health Needs Assessment project in Sharkia Governorate revealed that GIT, respiratory & circulatory problems were the most frequent health problems among the studied participants in present history (40.3%, 34%, and 30.6%, respectively). Socioeconomic factors such as low social class, widowhood, divorce, and illiteracy significantly impact health outcomes.

Maternal health issues are also prominent, with urban areas utilizing antenatal and infant care services more effectively than rural ones. Despite good physical access to health facilities, financial barriers significantly hinder service utilization, leading to high residence inequality. Additionally, frequent smoking, low sports participation, and low psychological support highlight areas for health education and promotion. Addressing these issues through targeted health education and service improvements can enhance overall health outcomes for the community.

The study underscores the need for targeted health interventions and improved accessibility to health services in Sharkia Governorate.

Recommendations:

There is an urgent need to collect data on the whole sample with current tools after some modifications to the data collection tools.

Based on pilot study results, the research team recommends the following:

- Enhancement of Health Education: Implement comprehensive programs focusing on the importance of vaccinations, dental health, and family planning. Utilize community-based education and mass media to raise awareness about environmental pollution and its impact on health.
- Improvement of Accessibility and Affordability: Address financial barriers to health services by introducing subsidized healthcare programs and improving the efficiency of the booking process. Ensure that health facilities are accessible to all, regardless of socioeconomic status.
- Promoting Healthy Lifestyles: Develop initiatives to increase sports participation and reduce smoking rates. This could include community sports programs and smoking cessation support services involving nurses and social workers.
- Enhancement of Facility Maintenance: Improve the cleanliness and maintenance of health

facilities to ensure a hygienic environment. Regular assessments and feedback mechanisms can help maintain high standards of cleanliness.

- Strengthening of Healthcare Worker Training: Provide ongoing training for healthcare workers to enhance patient interactions and ensure consistent, high-quality care. Focus on communication skills and patient-centered care practices.
- Reducing Waiting Times: Implement strategies to reduce consultations and medication dispensing waiting times. This could involve optimizing appointment systems and streamlining pharmacy operations.
- Expanding of Dental and Family Planning Services: Increase access to dental care and provide diverse, accessible contraceptive options to meet the needs of all women. Address barriers to family planning adoption through targeted interventions.

By addressing these recommendations, healthcare providers can significantly improve service quality and patient satisfaction, leading to better health outcomes for the community.

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Data availability:

Data is available at the request of the corresponding author.

Conflict of interest:

None.

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