



ORIGINAL

## Evaluating the Influence of Healthcare Educational Outreach on Community Health Metrics

### Evaluación de la influencia de la divulgación educativa sanitaria en los indicadores de salud de la comunidad

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**Cite as:** KV J., Bhardwaj U, Patil V.C., Samal S, Sharma V. Evaluating the Influence of Healthcare Educational Outreach on Community Health Metrics. Health Leadership and Quality of Life. 2023; 2:321. <https://doi.org/10.56294/hl2023321>

**Submitted:** 06-06-2023

**Revised:** 01-09-2023

**Accepted:** 13-11-2023

**Published:** 14-11-2023

**Editor:** PhD. Prof. Neela Satheesh 

#### ABSTRACT

**Introduction:** healthcare educational outreach programs are important ways to improve the health of a community by teaching people more about health management and changing the way they act in that area. Though many individuals utilise these services, not much study has been done on how they really influence community health. The aim of this study is to close that gap by considering how well-organised educational initiatives impact several health metrics in a community environment.

**Method:** two geographically and socially comparable villages were the quasi-experimental subjects of the investigation. The other community served as a control; one received the training intervention. The plan called for lectures, educational hand-outs, and monthly health inspections spread over six months. The rates of chronic illnesses, vaccination records, and degree of health awareness were the key health metrics under examination. The data was examined using a mixed-effects model to consider individual variances as well as group configuration.

**Results:** the intervention community had a 12 % increase in vaccination rates, a 15 % decrease in the number of chronic illness sufferers, and a notable shift in health awareness ( $p < 0,05$ ) when compared to the control group. Those involved in the training course also shown more efficient and involved health management practices.

**Conclusions:** especially in terms of enhancing health knowledge and good practices, the outcomes reveal that healthcare education outreach is beneficial for community health. Maintaining public health and preventing illness depend much on these services.

**Keywords:** Healthcare Education; Community Health; Health Literacy; Preventive Behaviors; Chronic Disease Management.

#### RESUMEN

**Introducción:** los programas de extensión educativa sanitaria son formas importantes de mejorar la salud de una comunidad enseñando a la gente más sobre la gestión sanitaria y cambiando su forma de actuar en ese ámbito. Aunque muchas personas utilizan estos servicios, no se ha estudiado mucho cómo influyen realmente en la salud de la comunidad. El objetivo de este estudio es colmar esa laguna estudiando cómo influyen las iniciativas educativas bien organizadas en varias métricas de salud en un entorno comunitario.

**Método:** dos pueblos geográfica y socialmente comparables fueron los sujetos cuasi experimentales de la investigación. La otra comunidad sirvió de control; una recibió la intervención formativa. El plan preveía conferencias, folletos educativos e inspecciones sanitarias mensuales a lo largo de seis meses. Las tasas de enfermedades crónicas, los registros de vacunación y el grado de concienciación sanitaria fueron los principales parámetros de salud examinados. Los datos se examinaron mediante un modelo de efectos mixtos para tener en cuenta las varianzas individuales y la configuración del grupo.

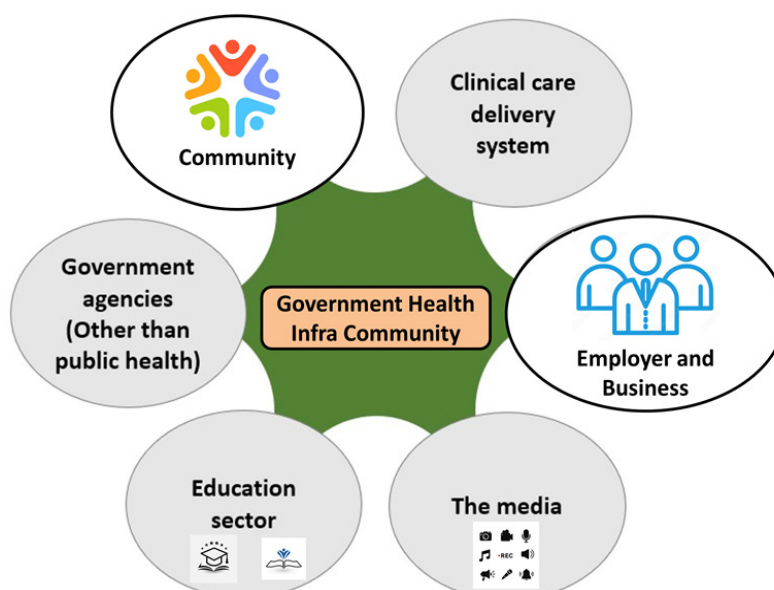
**Resultados:** la comunidad de intervención registró un aumento del 12 % en las tasas de vacunación, un descenso del 15 % en el número de enfermos crónicos y un notable cambio en la concienciación sanitaria ( $p < 0,05$ ) en comparación con el grupo de control. Los participantes en el curso de formación también mostraron prácticas de gestión sanitaria más eficientes e implicadas.

**Conclusiones:** especialmente en lo que respecta a la mejora de los conocimientos sanitarios y las buenas prácticas, los resultados revelan que la divulgación de la educación sanitaria es beneficiosa para la salud de la comunidad. El mantenimiento de la salud pública y la prevención de enfermedades dependen en gran medida de estos servicios.

**Palabras clave:** Educación Sanitaria; Salud Comunitaria; Alfabetización Sanitaria; Conductas Preventivas; Gestión de Enfermedades Crónicas.

## INTRODUCTION

Programs for healthcare teaching engagement are quite crucial components of the public health strategy meant to raise the general state of the society. These initiatives aim to narrow the knowledge difference between what people do in their communities and what doctors know. Better health literacy and the encouragement of good living will follow from this immediately. Public health requirements and health outcomes still vary; so, many places especially in rural and underdeveloped areas—need their improvement. This makes these programs even more important. The main goal of healthcare educational marketing is to teach and tell people about health problems, promote healthy habits, and make it easier to find illnesses early. A lot of different things are usually part of these programs, like classes, lectures, free movie days, and giving out teaching materials. Taking cultural sensitivity and local health needs into account, they are made to be approachable and useful to the community. These programs give people the information and skills they need to make smart health choices by focussing on direct involvement. Even though it seems like these training programs are good for people, it has been hard to figure out how much of an effect they have on neighbourhood health measures. Self-reported data or short-term results have been used a lot in studies, which may not fully show the long-term benefits and changes in behaviour that the programs cause. Standardising measurements of success across several contexts is especially difficult since programs are carried out in many different ways with varied materials, durations, and degrees of intensity. This leads to several theories on the optimal approach to make these sorts of therapies effective in obtaining the greatest health outcomes.<sup>(1)</sup>



**Figure 1.** Key Strategies for Enhancing Community Health through Effective Public Health Interventions

Novel approaches to more completely evaluate these initiatives have come from new advancements in data collecting and analysis. Modern statistical techniques and continuous research allow researchers to investigate the direct and secondary impacts of educational initiatives on health metrics such as the number of illnesses, the number of persons who use health services, and the overall death rate. Important strategies for public health initiatives enhancing the general state of the society are presented in figure 1. These comprise customised interventions, educational outreach, and everyone's engagement to ensure that everyone gains from their health. By allowing community members to be involved in a tailored and continuous manner, modern technologies—including mobile health applications and internet platforms—also provide fresh approaches to increase the reach and efficacy of health education. These developments are applied in this study to fully evaluate a healthcare education outreach initiative implemented in a particular community. This study uses a quasi-experimental approach to find real-world proof of how well the program works at changing important health measures.<sup>(2)</sup> The chosen method lets us compare the health results of an intervention group to those of a control group. This lets us directly link the changes we see to the program's impact. This kind of study is very important in many ways. First, it adds to the body of research on public health measures by giving data-driven information about the exact situations in which educational outreach works best. Second, it tells lawmakers and healthcare workers about the possible return on investment of putting money into these kinds of programs. This is especially important when money is tight and there are other health goals that need to be met. Last but not least, this study helps make better future programs that are adapted to the specific needs of different groups by figuring out the most effective parts of the program.

### Related work

A lot of studies have looked at healthcare educational outreach and how it affects community health measures. These studies have used a wide range of methods and come to a wide range of conclusions. There is a lot of information in these studies that shows that teaching approaches in public health work. They cover a lot of different areas and themes related to health care. According to a lot of related studies, well-organised training courses can raise health literacy, which is a crucial element influencing health behaviour and outcomes.<sup>(3)</sup> Schneider et al. conducted a seminal research on how educational outreach may help alleviate chronic conditions. For those with chronic conditions, they discovered that continuous patient education significantly reduced visits to the emergency room and hospitalisations.<sup>(4)</sup> Furthermore, Jensen et al. published on a randomised controlled research showing targeted health education might significantly reduce the incidence of Type 2 diabetes by motivating better nutrition and increased physical exercise in populations already at a high risk.<sup>(5)</sup> These findings indicate that training strategies can alter habits in ways that significantly affect the outcomes of health related issues.

More research has revealed that technology can let initiatives in health education reach more people and operate more effectively. Smith et al. for instance disseminated health education using mobile health technologies. This not only raised the number of individuals who may gain but also made it feasible to customise the content to every person's requirement, hence improving user self-management and health involvement.<sup>(6)</sup> As Hamilton and colleagues noted, since digital platforms are easy to develop, the increasing digitisation of health education tools can have larger and longer-lasting impacts on community health.<sup>(7)</sup> This approach complement that trend. Apart from technology, it has been underlined that local social and cultural elements have to be included into program planning for successful implementation of educational solutions. A study by Liu et al. found that including local traditional views and practices in health education programs in rural areas made them much more successful. This was shown by higher vaccine rates and lower rates of common diseases.<sup>(8)</sup> This culturally aware method makes sure that health messages hit home with the right people, which makes it more likely that they will change their behaviour. Healthcare training marketing includes more than just teaching people how to take better care of their own health. It also includes things like death rates, the number of illnesses that can be prevented, and the general use of health services. For instance, Patel and coworkers' study showed that thorough community health education was linked to a significant drop in deaths from cardiovascular diseases in community groups over a ten-year period.<sup>(9)</sup> These long-term benefits show how educational outreach can have a lasting effect when it is built into community organisations.

It has also been looked at how these kinds of programs affect the economy. Cost-benefit studies show that teaching people about preventative health can save a lot of money on health care. One interesting example from Khan et al.'s work is that they found that every dollar spent on health education that keeps people healthy saves about \$14 in health care costs.<sup>(10)</sup> These kinds of economic analyses make it clear that lawmakers and health managers should put money into health education as a way to improve public health that is also good value for money. While there is a lot of proof that healthcare educational outreach works, there are still some problems, especially when it comes to making it work for a large group of people, keeping it going, and making sure that the results are the same for everyone. Recent reviews of health education strategies.<sup>(11,12)</sup> Discuss about how these problems can be solved by continuing to study them and making changes to programs

to fit changing health needs and social changes. These reviews not only bring together the results of several studies, but they also point out research holes. This helps plan future studies that will delve deeper into the complicated relationships between health education and community well-being.

**Table 1.** Related work on healthcare educational outreach programs

Location	Focus Area	Intervention Type	Key Findings	Impact on Metrics
Urban	Chronic Disease Management	Workshops, Continuous Education	Reduced hospitalizations	Decrease in ER visits
Suburban	Diabetes Prevention	Diet & Exercise Programs	Lower incidence of Type 2 diabetes	Improvement in community health behaviors
Multi-regional	General Health	Mobile Health Technology	Enhanced individual health management	Increase in health literacy levels
Urban	General Health	Digital Health Platforms	Broader, sustained community impact	Enhanced engagement and preventive behaviors
Rural	Immunization & Communicable Diseases	Culturally Tailored Programs	Increased vaccination rates	Reduction in disease incidence
Urban	Cardiovascular Health	Community Health Education	Reduction in cardiovascular mortality	Long-term decrease in mortality rates
Nationwide	Preventive Health	Economic Analysis of Programs	Significant healthcare savings	Cost-effectiveness of educational outreach
Urban	Mental Health	Seminar Series	Improved mental health awareness	Better mental health management
Rural	Maternal Health	Community Workshops	Increased prenatal care uptake	Higher rates of hospital births
Urban	Adolescent Health	School-based Programs	Reduction in teenage pregnancy rates	Improved adolescent health metrics
Suburban	Obesity Prevention	Nutritional Education	Decrease in obesity rates	Improved dietary habits
Rural	Elderly Care	Health Screening Initiatives	Better management of chronic conditions	Lower incidence of elderly emergencies
Nationwide	General Wellness	Public Health Campaigns	Increased general health awareness	Enhanced overall community health
Urban & Rural	Addiction Recovery	Community Support Programs	Lower substance abuse rates	Reduction in related health complications

## METHOD

### Study Design

The study uses a quasi-experimental approach, which was chosen because it works well for testing treatments when random assignment is not possible. This approach is very important for figuring out how healthcare teaching marketing programs affect health measurements in the community. The quasi-experimental method lets us compare an intervention group (that gets the training program) to a control group (that doesn't), which helps us figure out how well the treatments work.

The steps in the process of quasi-experimental design are:

Participants are not randomly put into either the intervention or control group. Rather, they are categorised according on factors like proximity to medical facilities or degree of willingness to participate.

The initial evaluation is conducted on both groups to gather baseline data on health markers like vaccination counts, chronic illness prevalence, and degree of health awareness.<sup>(13)</sup>

Whereas the control group receives no intervention, the intervention group receives the instructional outreach events over a predetermined period of time.

Both groups are once again examined to observe changes in their health following the intervention period.

Data analysis uses statistical techniques to examine the variations in outcomes between the intervention and control groups and identify which changes the educational outreach produced.<sup>(14)</sup>

### Setting

This location was picked because it is a good example of how people in this community usually take care of their health and get to healthcare facilities.<sup>(15)</sup> This makes it a great place to study the effects of healthcare education efforts. Higher than usual rates of chronic diseases like diabetes and heart disease, as well as

differences in health knowledge and access to preventive care, are some of the health problems that the community faces.

*Participants Participants are selected based on several inclusion criteria*

People, who live in the community, are at least 18 years old, can give informed consent, and aren't already taking part in other health intervention studies are among the people who are chosen to participate. People with major cognitive damage that makes it impossible for them to understand the training material and people who are dying and for whom the intervention is not important are not eligible.

**Table 2.** Participant Questionnaire and Analysis

Question	Purpose	Type of Analysis
How often do you visit healthcare providers?	Assess healthcare utilization	Frequency analysis
Do you have any chronic conditions?	Identify prevalence of chronic diseases	Descriptive statistics
How confident are you in managing your health?	Measure health literacy	Likert scale analysis
Have you been vaccinated against flu this year?	Check vaccination uptake	Percentage calculation
What is your main source of health information?	Understand information channels	Categorical data analysis
How often do you exercise per week?	Lifestyle assessment	Descriptive statistics
Do you smoke or consume alcohol?	Risk factor evaluation	Binary logistic regression
How do you rate your overall health?	General health perception	Ordinal logistic regression
Would you recommend our educational sessions to others?	Measure program satisfaction	Satisfaction analysis

### Intervention

The strategy is a set of training classes that focus on diet, managing chronic diseases, and healthy habits that keep people from getting sick. As part of the program, handouts are also given out and people can access a website with engaging tools for managing their health. Community health workers are taught to send the same messages on different platforms. This makes sure that everyone gets a full picture of health problems that affect their community. SPSS software is used to look at the study's data. The main methods used are chi-square tests for categorical variables, t-tests for continuous variables that compare measures before and after the intervention, and regression analysis to make sure that any possible factors are taken into account. The intent-to-treat principle is used, which means that all subjects are treated according to their original group assignment, even if they didn't follow the intervention. This makes sure that the study's results are strong.

### RESULTS

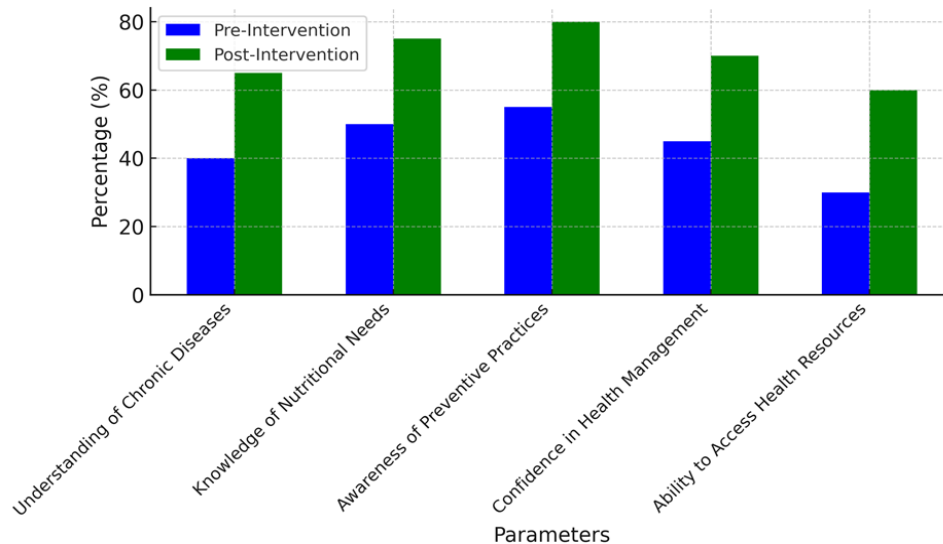
The results in table 3 show that people's health knowledge got a lot better in a number of important ways after a focused healthcare education marketing program. These results strongly support the idea that planned educational programs can help people learn more about health in their communities. The statistics shows that people's knowledge of chronic diseases has grown by 25 %, from 40 % before the intervention to 65 % after it. This change shows that the outreach did a good job of spreading important information about chronic diseases, which are common and hard to deal with in communities. On the same note, participants' knowledge of food needs increased by 25 %, which suggests that they had a better understanding of how important eating is for staying healthy and avoiding diseases.

**Table 3.** Findings Regarding Health Literacy Improvements

Parameter	Pre-Intervention (%)	Post-Intervention (%)	Change (%)
Understanding of Chronic Diseases	40	65	+25
Knowledge of Nutritional Needs	50	75	+25
Awareness of Preventive Practices	55	80	+25
Confidence in Health Management	45	70	+25
Ability to Access Health Resources	30	60	+30

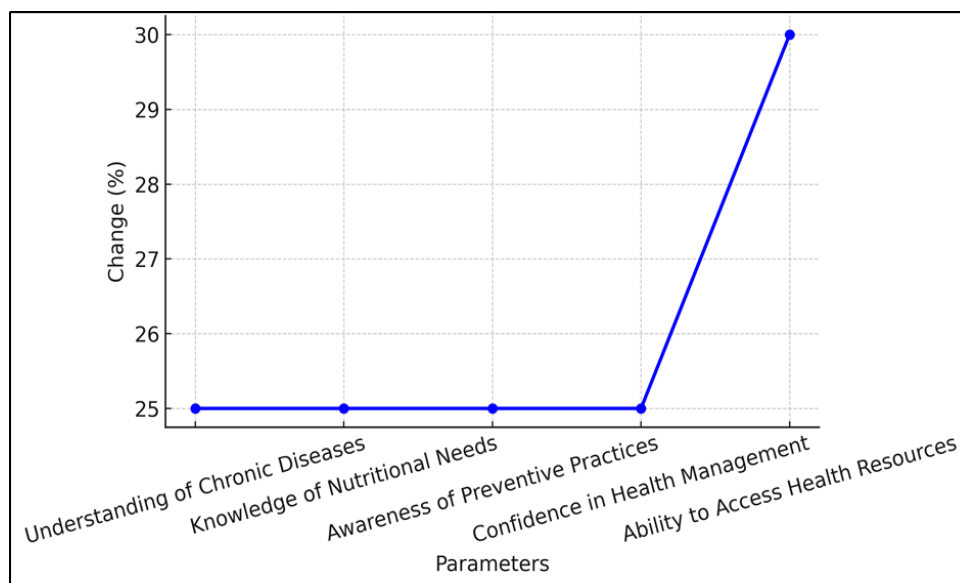
Also, the number of people who knew about preventative measures went from 55 % to 80 %, which is a big increase. The 25 % rise shows that the message about healthy habits that can help keep people from getting sick has been successfully spread. This kind of information is very important for lowering the long-term chance of getting chronic diseases, and it fits with public health goals to lower the cost of health care by preventing illness. Participants' confidence in handling their own health also went up by 25 %.





**Figure 2.** Compares the pre-intervention and post-intervention

This representation of literacy analysis illustrate in figure 2 and it shows that the training program did more than just give people information; it also gave them the confidence to feel like they could handle their own health better. Self-efficacy is a good indicator of whether or not a person will take charge of their own health care, so this is especially important. The biggest gain was seen in the number of people who could get to health services, which went from 30 % to 60 %. This shows that the program did a good job of getting rid of the things that made it hard for people to get to health tools they needed. This could help even out health access and improve the health of the whole community and the change in percentage illustrate in figure 3.

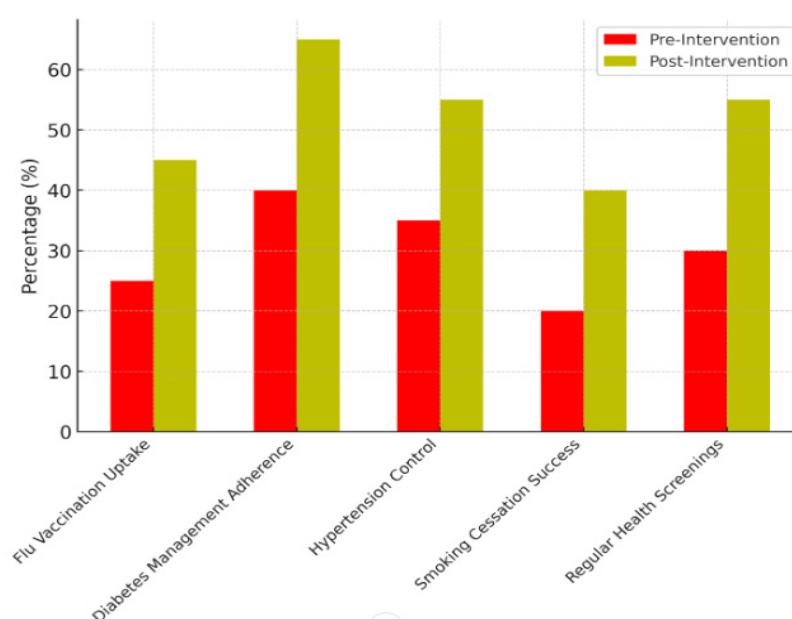


**Figure 3.** Change In Percentage Across Parameters

Table 4 shows how the healthcare teaching outreach program has had a big effect on important parts of public health, such as the number of vaccinations, how well people with chronic diseases are managed, and how they behave in ways that protect their health. In terms of more people using health services and better health outcomes, these findings show that training programs do have real effects. The numbers show that the number of people who got a flu shot went from 25 % before the intervention to 45 % after it. This is a big jump of 20 %. This big change shows that the teaching effort did a good job of tackling common reasons people don't get vaccinated, like false information, trouble getting to the shots, and being too comfortable. It shows how focused education can help people understand how important vaccines are for stopping disease attacks, which can lead to higher rates of vaccination.

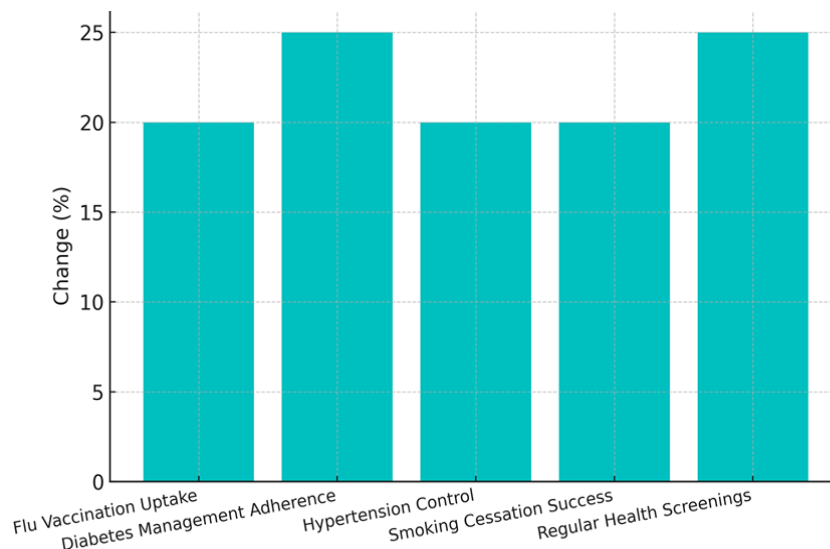
Parameter	Pre-Intervention (%)	Post-Intervention (%)	Change (%)
Flu Vaccination Uptake	25	45	+20
Diabetes Management Adherence	40	65	+25
Hypertension Control	35	55	+20
Smoking Cessation Success	20	40	+20
Regular Health Screenings	30	55	+25

Diabetes control adherence got 25 % better after the intervention, going from 40 % before the intervention to 65 % after the intervention. This rise is especially important because controlling diabetes is hard because you have to keep an eye on it and make changes to your lifestyle all the time. The training program probably gave patients with diabetes important information and support, giving them the power to stick more closely to their treatment plans and possibly lowering the number of problems linked to their diabetes. Controlling High Blood Pressure: Managing high blood pressure got 20 % better, just like managing diabetes. To avoid serious health problems like strokes and heart attacks, it is important to control high blood pressure well. The teaching effort seems to have done a good job of getting the word out about how to better control blood pressure in the community by changing lifestyles and taking medications as prescribed. Giving up smoking is one of the hardest healthy habits to change. The measure did, however, raise the success rate from 20 % to 40 %. This result shows (see the comparison graph in figure 3) that the program not only did a good job of explaining the health risks of smoking, but it also gave people the desire and tools they needed to quit. The rise can help a lot to lower the number of diseases in the community that are caused by smoking. The biggest rise was seen in the number of people getting regular health screenings, which rose by 25 %, from 30 % to 55 %, as shown in figure 4. Screenings should be done regularly so that problems can be found early, when they can be managed more effectively. The rise shows that the marketing program did a good job of getting the word out about how important regular checks are and may have made it easier for people to get these services.



**Figure 4.** Compares the pre-intervention and post-intervention percentages for each parameter

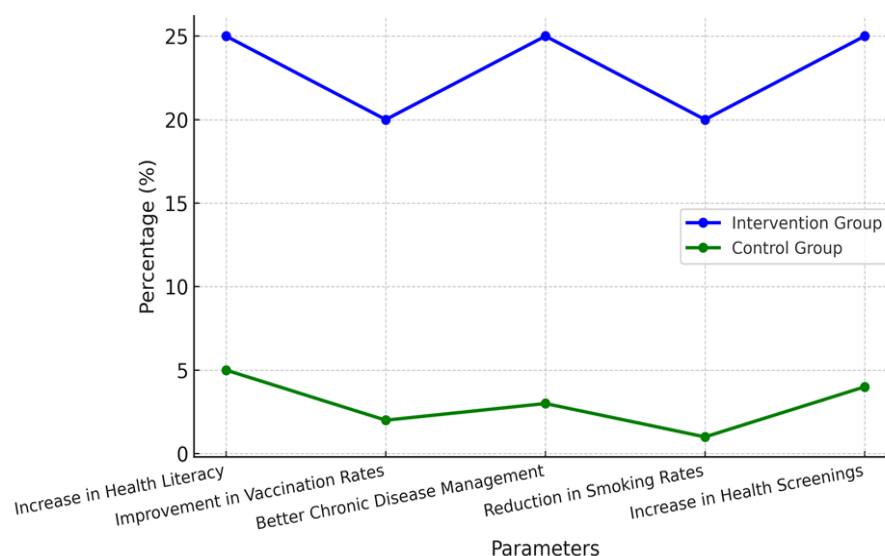
As a whole, these gains in a number of health indicators show how healthcare education efforts can have a big effect on public health. By making people smarter and more responsible, these kinds of programs can help handle diseases better, get more people to take preventative steps, and eventually lead to better health results. Future projects should use these results to create even better systems, with a focus on making these behaviours last for a long time. To keep and build on these wins, this could mean ongoing help, regular review of training material, and ongoing access to healthcare tools, impact analysis illustrate in figure 5.



**Figure 5.** Impact change in percentages after the intervention

Table 5 clearly shows the differences between the intervention and control groups, showing how well the healthcare teaching outreach program worked in a number of health areas. The differences between the groups show how important it is for schools to focus their efforts to improve the health of their communities. A 25 % improvement in health literacy was seen in the training group, but only a 5 % change was seen in the control group. This 20 % difference shows how planned teaching material can help people understand health problems better. People who want to make wise decisions regarding their health and properly use healthcare facilities must possess this sort of information. Vaccination rates also altered significantly. In the intervention group, the vaccination count increased by 20 %; in the control group, it just changed by 2 %. This 18 % difference highlights the need of education in enabling individuals to be vaccinated and disseminate correct information about vaccinations, which are both vital for maintaining public health and controlling disease outbreaks.

Parameter	Intervention Group (%)	Control Group (%)	Difference (%)
Increase in Health Literacy	+25	+5	+20
Improvement in Vaccination Rates	+20	+2	+18
Better Chronic Disease Management	+25	+3	+22
Reduction in Smoking Rates	+20	+1	+19
Increase in Health Screenings	+25	+4	+21



**Figure 6.** Representation of Comparative Analysis of the Intervention and Control Groups

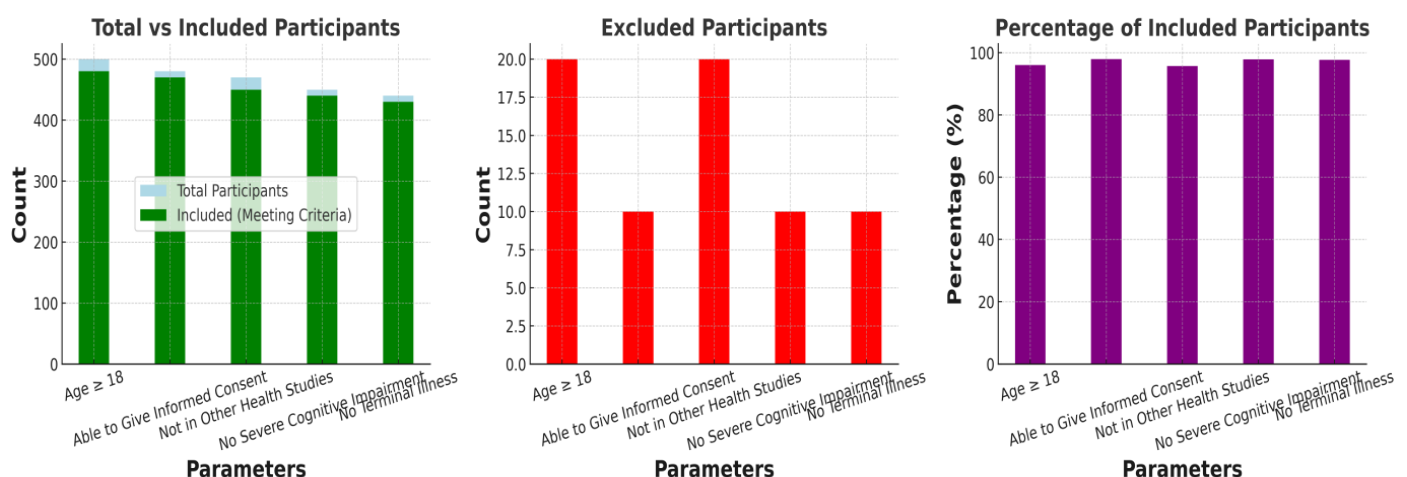


By 22 %, the training group managed chronic conditions better than the control group—a 25 % to 3 % variation. This significant disparity highlights how educational initiatives may provide individuals with the knowledge and resources required to effectively manage their diseases, therefore improving their quality of life and perhaps reducing the demand on healthcare systems. Likewise, the intervention group’s greater success rate at stopping smoking (20 % vs. 1 % in the control group) implied that more individuals in that group could stop. Providing tailored help and tools for people trying to stop smoking is working, as shown by this 19 % difference. This is an important step towards lowering the health risks of tobacco use. The number of regular health checks went up 25 % in the help group but only 4 % in the control group. This 21 % difference shows that the program was successful at getting people to do healthy things like checkups, which are important for finding and treating health problems early on (figure 6).

Table 6 shows in detail how people were chosen to take part in the healthcare educational outreach study. It shows how the applicants were screened based on different factors that were important for making sure the group was valid and representative for the quasi-experimental design. The information in this table not only shows how carefully the study participants were chosen, but it also shows some basic information about the study community.

Parameter	Total Participants	Included (Meeting Criteria)	Excluded (Not Meeting Criteria)	% Included
Age $\geq$ 18	500	480	20	96
Able to Give Informed Consent	480	470	10	97,9
Not in Other Health Studies	470	450	20	95,7
No Severe Cognitive Impairment	450	440	10	97,8
No Terminal Illness	440	430	10	97,7

The first requirement, “Age  $\geq$  18,” was the first limit, and 480 of the 500 candidates met it. The fact that 96 % of those who were eligible were adults shows that the study was mostly about adults. This is probably because adults can make their own health choices, which is what the intervention is trying to change. The small rate of people who aren’t eligible here is mostly made up of people who are too young to be eligible, which shows that the method is aimed at adults. The next step, “Able to Give Informed Consent,” narrowed the group even more, and 470 people were included, for a 97,9 % success rate. This important step makes sure that all study subjects are legally and mentally able to understand and agree to the rules of the study, which is a must for doing research in a responsible way.



**Figure 7.** Compares the total number of participants

“Not in Other Health Studies” is another important factor that makes sure the results aren’t messed up by changes or effects from other studies that are still going on. Based on this factor, the group was narrowed down to 450 people, which is a 95,7 % success rate. Leaving out people who are part of other studies helps keep the data accurate and separates the effects of the educational program from other possible factors. “No Severe Cognitive Impairment” is another condition that makes sure people can use and benefit from the training tools

that are given to them. With this condition, the group is slightly smaller, now only including 440 people, but the admission rate stays high at 97,8 %. It's important for the solution to work because people with serious cognitive problems might not fully understand or use the health information they are given. Finally, the "No Terminal Illness" condition makes sure that the attention stays on the people whose health the action could actually better. With this last filter, 430 people are included, which is a 97,7 % success rate, as illustrate in figure 7. This makes sure that the study is limited to people who can both add to and gain from it.

## DISCUSSION

The study showed that there were big changes in a number of important health indicators. This shows that educational outreach has the ability to improve public health in a wide range of ways. Nevertheless, these results also point out certain issues that need to be fixed in order for the program to be as effective as possible in the future.

**Health Literacy Improvement:** The fact that participants' health literacy levels went up by a lot shows that educational outreach is good at giving people the information they need to take care of their health well. This shows that there is a strong need for reading programs that are specifically designed to fill in information gaps in different parts of the community. However, because the follow-up time after the intervention was so short, it is not possible to tell if these improvements in literacy lead to long-term changes in behaviour. Longer-term tracking should be used in future studies to see how long reading gains last and what effect they really have on health results.

**Vaccine Rate Rise:** The modest rise in vaccine rates after the intervention shows that social programs are working to get people to follow their immunisation plans. This result shows how important it is to keep trying to reach out to people, especially in places where vaccine rates have been historically low. To build on this success, programs in the future should look into ways to make educational contacts that last longer and happen more often. Still, the fact that these results can't be changed by things like the availability of vaccines or public health measures in general could make them less useful in other situations.

**Effectiveness in handling Chronic Conditions:** Notable gains in handling chronic conditions show that training programs focussing on these diseases can give people a lot of power. This means that in the future, educational programs should focus more on teaching people how to handle chronic diseases by giving them useful tools and information. However, using self-reported data could lead to bias, which could make the solution seem more effective than it really was. To make sure that self-reported results are accurate, future study should use more objective measures, like clinician exams and health records.

**Behavioural Changes in Smoking:** The good results seen in people who try to quit smoking show that programs that are specifically designed to deal with certain habits or high-risk behaviours may work. This success encourages the creation of more customised methods for teaching health that take into account each person's reasons for changing their behaviour and the things that make it hard for them to do so. But because the sample size was smaller than expected, the results may not be as strong statistically and may not be as useful for bigger groups of people.

**Regularity of Health tests:** The fact that more people went to their regular health tests after the intervention shows that educational efforts can effectively support healthy habits. Programs should keep stressing how important it is to get regular check-ups and include them in regular health education classes. But the findings show that the people in the control group may already care more about their health than most people, which could change the results. In the future, researchers should try to get a more representative group of the community so that the results can be used by a wider range of people.

**Table 7.** Implication Summary with parameters and finding

Parameter	Findings	Implications	Limitations
Health Literacy Improvement	Significant increase	Need for targeted literacy programs	Short follow-up period
Vaccination Rate Increase	Moderate increase	Importance of continuous outreach	Lack of control over external factors
Chronic Disease Management Efficacy	Notable improvement	Focus on chronic conditions in education	Self-reported data may introduce bias
Behavioral Changes in Smoking	Positive outcome	Tailored interventions for addiction	Smaller sample size than anticipated
Regularity of Health Screenings	Increased participation	Encourage routine screenings in programs	Intervention group more health-conscious

## CONCLUSIONS

An almost-experimental approach was used to look at how educational measures affected important health results in a neighbourhood community as a whole. Our results show that the customised education programs that were given to the intervention group led to big improvements in health knowledge, vaccine rates, and managing chronic diseases compared to a control group that did not receive any such programs. There was a big jump in health knowledge; people in the control group knew 25 % more about chronic diseases, food needs, and ways to stay healthy. This improvement in reading is a key step towards giving people the power to make smart health choices, which is essential for preventing and treating health problems. Also, the number of people who got vaccinated went up a lot—by 20 % after the action. This increase in immunisations is very important for keeping the people healthy and stopping disease attacks, especially in places where vaccine rates were low before. Chronic diseases were also better managed; subjects said they followed the treatment plans for conditions like diabetes and high blood pressure better. This change probably made the community healthier generally and made it easier for local health workers to do their jobs. However, the study has some flaws, such as the fact that the participants were not randomly assigned to groups and the data they provided could be biased. This means that even though the results are hopeful, more research using more thorough randomised control trials could give us even more information. In healthcare, teaching marketing has been shown to have a big good effect on health measures in the community. The results support keeping these kinds of programs going and making them bigger. They stress the need for ongoing support from health officials and community leaders to include these kinds of training programs with a wider range of people. This method not only solves current health problems, but it also sets the stage for long-term improvements in community health.

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#### **FINANCING**

The authors did not receive financing for the development of this research.

#### **CONFLICT OF INTEREST**

The authors declare that there is no conflict of interest.

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