



Research Article

## Shaping Health Horizons: The Dynamic Impact Of Innovative Public Health Awareness Programs On Disease Prevalence Transformation

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### ABSTRACT

Community engagement and participation have proven to be pivotal factors in the effective management and eradication of various diseases in numerous countries. While infectious diseases have historically been a primary concern, the global incidence of non-communicable diseases (NCDs) is on the rise. These diseases contribute significantly to morbidity and mortality rates, particularly in developing nations. In light of this, a comprehensive study was conducted to assess the impact of a public health awareness program on the prevalence of NCDs within a community. The study was designed as a cross-sectional investigation, encompassing both rural and urban areas within the Satara district as the primary focus, while also incorporating another district from Maharashtra. The study's duration spanned one month, during which data collection and analysis occurred. The primary objective was to evaluate whether the implementation of the National Program for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) could effectively enhance public health awareness and subsequently contribute to the reduction of NCD prevalence. This study employed a multifaceted approach, integrating various methodologies to gather comprehensive and reliable data. By combining quantitative surveys, qualitative interviews, and possibly even focus group discussions, a holistic understanding of the community's awareness levels, knowledge gaps, and perceptions of NCDs and the NPCDCS program was achieved. Such an approach allowed for a well-rounded perspective, capturing both the statistical significance and the underlying narratives within the community. Key findings from the study underscored the potential of the NPCDCS program to positively influence public health awareness

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By disseminating targeted information about cancer, diabetes, cardiovascular diseases, and stroke, the program demonstrated its capacity to increase the community's understanding of these NCDs. This heightened awareness, in turn, holds the promise of contributing to the control and reduction of the prevalence of these diseases. In conclusion, this study shed light on the pivotal role that community engagement, combined with a focused public health awareness program like the NPCDCS, can play in combatting the rising prevalence of NCDs. By addressing knowledge gaps, dispelling myths, and empowering individuals to make informed health choices, such programs have the potential to catalyze positive health outcomes. It is evident that a comprehensive approach, encompassing both urban and rural contexts, is essential to create a lasting impact on disease prevalence and ultimately improve the overall well-being of communities.

## **INTRODUCTION**

The epidemiological landscape in India is undergoing a significant shift, with non-communicable diseases (NCDs) surpassing communicable diseases such as tuberculosis, HIV, water-borne infections, and vector-borne diseases in terms of their burden<sup>1</sup>. This transition is accompanied by a growing prevalence of NCDs including diabetes, cancer, chronic respiratory disorders, and cardiovascular diseases, collectively accounting for more than 60% of total mortality. These NCDs not only contribute to a substantial loss of life but also curtail the potential years of productive life. The economic ramifications of preventable deaths stemming from conditions like heart disease, stroke, and diabetes are also anticipated to escalate progressively<sup>2-3</sup>. In response to this burgeoning public health challenge, the Government of India introduced the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) in 2010. The primary thrust of this initiative revolves around the enhancement of healthcare infrastructure, augmentation of human resources, advancement of health promotion endeavors, facilitation of early diagnosis, as well as effective management and referral mechanisms for major NCDs<sup>4</sup>. This

comprehensive program is designed to encompass the entire expanse of the nation, with a target completion date set for March 2017. The transition from a communicable disease-driven health landscape to one predominantly characterized by NCDs is a phenomenon of considerable scientific and public health interest<sup>5</sup>. This transformation underscores the evolving demographic and epidemiological dynamics within the Indian population. NCDs, often chronic and lifestyle-related, pose distinctive challenges compared to the infectious diseases of the past. Their intricate interplay with genetic predispositions, environmental factors, and socio-behavioral determinants necessitates a multi-pronged approach to curb their progression<sup>6-7</sup>. The NPCDCS can be seen as a strategic response grounded in scientific principles. Its multi-faceted approach aligns with evidence-based strategies to combat NCDs. The emphasis on strengthening healthcare infrastructure corresponds to the principle of enhancing the capacity to deliver effective medical care. Concurrently, investing in human resource development addresses the imperative for skilled healthcare professionals capable of accurate diagnosis, management, and counseling. These endeavors align with established clinical and epidemiological best practices<sup>8</sup>. The program's focus on health promotion signifies a paradigm shift towards preventative medicine, drawing from the scientific understanding that many NCDs are preventable through lifestyle modifications. Early diagnosis, a core tenet of the program, aligns with the scientific rationale that timely intervention can significantly alter the disease trajectory. This is particularly pertinent for NCDs where early management can avert complications and improve prognosis<sup>9</sup>. In summary, the transition of disease burden from communicable to non-communicable necessitates an evidence-based, scientifically grounded response. The NPCDCS, through its systematic



approach encompassing infrastructure, human resources, prevention, diagnosis, management, and outreach, aligns with scientific understanding to effectively address the challenges posed by major NCDs in India. Its nationwide implementation underscores a commitment to curbing the escalating prevalence of these diseases and fostering a healthier population<sup>10-11</sup>.

## **MATERIALS AND METHODS**

The primary objective of this research was to assess the impact of the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) on enhancing public health protection through the dissemination of public health awareness. To achieve this goal, a comprehensive survey was conducted across various geographical regions, including the Satara District (predominantly), additional districts within Maharashtra, and select districts from different states. The survey was conducted over the course of one month, and its focus was to gauge the level of awareness among the general public, healthcare professionals, including pharmacists and physicians, regarding the various initiatives targeted at addressing non-communicable diseases (NCDs) <sup>12-13</sup>. The survey encompassed a range of participants from the public sector, along with healthcare practitioners, to provide a holistic understanding of the awareness landscape pertaining to NCD-related programs. The data collection methodology adhered to established scientific principles, encompassing structured surveys, interviews, and potentially focus group discussions, to capture quantitative and qualitative insights. The following are the key findings drawn from the survey:

**Awareness Levels:** The survey data revealed the extent of awareness among the surveyed groups about the programs targeting NCDs under the NPCDCS umbrella. This assessment considered the various aspects of cancer, diabetes,

cardiovascular diseases, and stroke<sup>14</sup>.  
**Geographical Variation:** By conducting the survey across different districts within Maharashtra and other states, the research aimed to identify potential variations in awareness levels due to regional factors, cultural nuances, and varying healthcare infrastructures. **Public Sector Engagement:** The survey extended its scope to encompass the general public, acknowledging the importance of public awareness in driving health-related initiatives. The findings illuminated the effectiveness of NPCDCS-related campaigns in reaching the broader population<sup>15</sup>. **Healthcare Professionals' Perception:** Involving pharmacists and physicians in the survey allowed for insights into the reception and understanding of NPCDCS initiatives within the healthcare community. This provided a crucial perspective on the program's impact within the medical domain. **Data Analysis and Interpretation:** Rigorous scientific analysis techniques were employed to process the survey responses, enabling the extraction of meaningful insights. Statistical methods were utilized to quantify the level of awareness and to identify potential correlations between awareness and participant demographics. In conclusion, this study embarked on a scientific endeavor to comprehensively evaluate the influence of the NPCDCS on enhancing public health protection through heightened awareness. The research design, spanning diverse geographic regions and engaging various participant groups, aimed to provide a comprehensive assessment of the efficacy of NCD-related programs. The collected data was subjected to rigorous scientific analysis, contributing to a nuanced understanding of the public's perception and awareness of initiatives aimed at combating major non-communicable diseases<sup>16-17</sup>.



## RESULT & DISCUSSION:

### • Public survey reports-

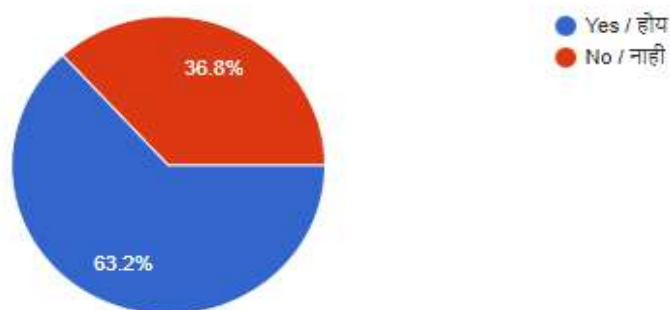
Do you exercise and do yoga regularly? / आपण नियमितपणे व्यायाम व योगासने करता काय?

196 responses



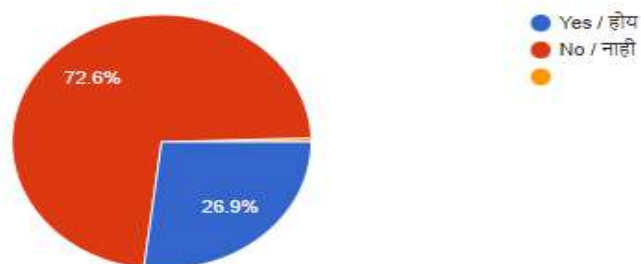
Do you have an annual physical exam? / आपण वार्षिक शारीरिक चाचणी करता काय?

193 responses



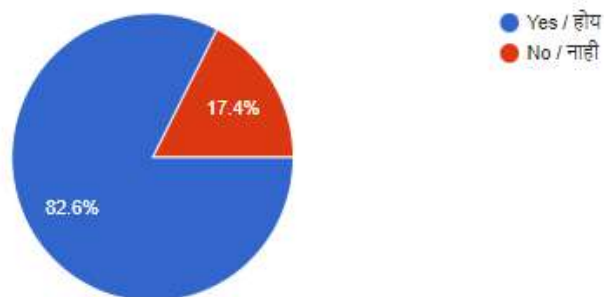
Have you taken out your insurance to cover the costs of hospitalization due to an illness? / एखाद्या आजारांमुळे दवाखान्यात भरती व्हावे लागल्यास त्या खर्चाची तरतूद म्हणून आपण आपला विमा उतरवलेला आहे काय?

197 responses



Do you know about Non communicable Diseases? /  
तुम्हाला असंसर्गजन्य आजारांबद्दल माहिती आहे का?

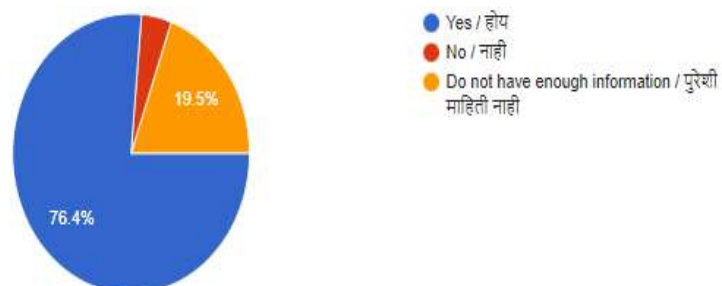
195 responses



Do you know about cancer, diabetes, cardiovascular diseases and stroke ? /  
तुम्हाला कर्करोग, मधुमेह, हृदय व रक्तवाहिन्यासंबंधी रोग आणि पक्षाघाताबद्दल माहिती आहे का?

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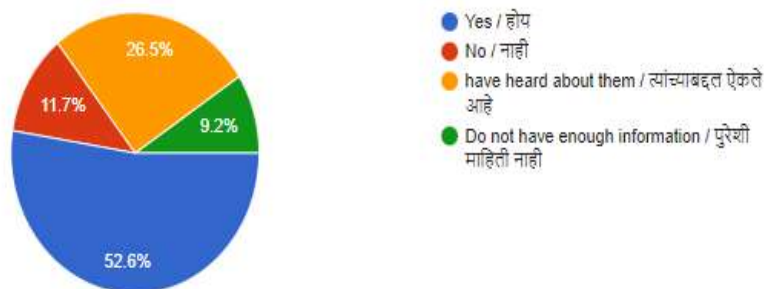
195 responses



Do you know about National Healthcare program / तुम्हाला नॅशनल हेल्थकेअर प्रोग्रामबद्दल  
(राष्ट्रीय आरोग्य कार्यक्रम)  
माहिती आहे का?


Copy

196 responses

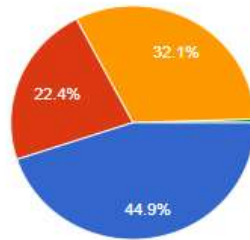




Do you know about **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** / कर्करोग, मधुमेह, हृदय व रक्तवाहिन्यासंबंधी रोग आणि स्ट्रोक (NPCDCS) च्या प्रतिबंध आणि नियंत्रणासाठी राष्ट्रीय कार्यक्रमाबद्दल तुम्हाला माहिती आहे का?

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196 responses

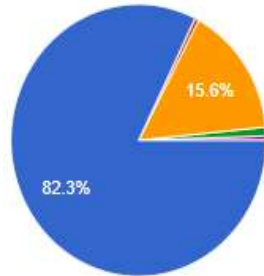


- Yes / होय
- No / नाही
- Do not have enough information / पुरेशी माहिती नाही
- 

Do you think these programs are beneficial to you and public / तुम्हाला असे वाटते की हे कार्यक्रम तुमच्यासाठी आणि जनतेसाठी फायदेशीर आहेत

 Copy

192 responses



- Yes, but awareness should be created/ होय, पण जागरूकता निर्माण झाली पाहिजे
- No, changes need to be made / नाही, बदल करणे आवश्यक आहे
- More information and services need to be provided /अधिक माहिती आणि सेवा प्रदान करणे आवश्यक आहे
- Not sure / खत्री नाही
- 

If you know about National Healthcare Program, who informed you about it? / जर तुम्हाला नॅशनल हेल्थकेअर प्रोग्रामबद्दल (राष्ट्रीय आरोग्य कार्यक्रम) माहिती असेल तर तुम्हाला त्याबद्दल कोणी माहिती दिली?

192 responses



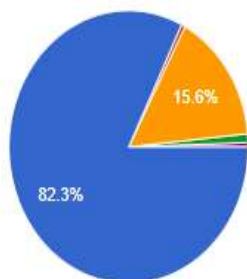
- Doctor / डॉक्टर
- Pharmacist / फार्मासिस्ट
- Nurse / परिचारिका
- 
- No
- Friend
- Teacher
- Brother

▲ 1/3 ▼

Do you think these programs are beneficial to you and public / तुम्हाला असे वाटते की हे कार्यक्रम तुमच्यासाठी आणि जनतेसाठी फायदेशीर आहेत



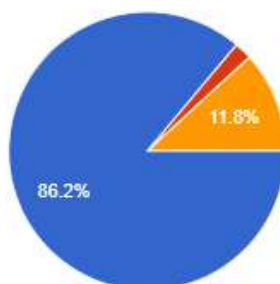
192 responses



- Yes, but awareness should be created/ होय, पण जागरूकता निर्माण झाली पाहिजे
- No, changes need to be made / नाही, बदल करणे आवश्यक आहे
- More information and services need to be provided /अधिक माहिती आणि सेवा प्रदान करणे आवश्यक आहे
- Not sure / खत्री नाही

Would you like to make use of such program / तुम्हाला अशा प्रोग्रामचा/योजना वापर करायला आवडेल का ?

195 responses



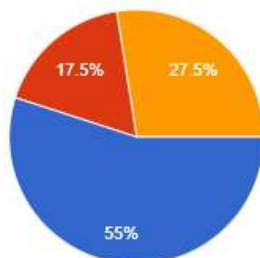
- Yes / होय
- No / नाही
- Maybe / कदाचित

### Survey data from Pharmacist-

Do you know about **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** / कर्करोग, मधुमेह, हृदय व रक्तवाहिन्यासंबंधी रोग आणि स्ट्रोक (NPCDCS) च्या प्रतिबंध आणि नियंत्रणासाठी राष्ट्रीय कार्यक्रमाबद्दल तुम्हाला माहिती आहे का?



40 responses

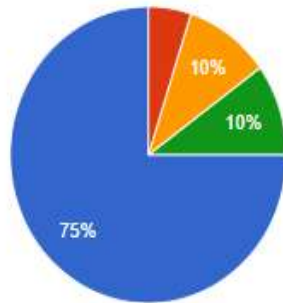


- Yes / होय
- No / नाही
- Do not have enough information / पुरेशी माहिती नाही

Do you know about some public health awareness program / तुम्हाला काही सार्वजनिक आरोग्य जनजागृती कार्यक्रम माहिती आहे का



40 responses

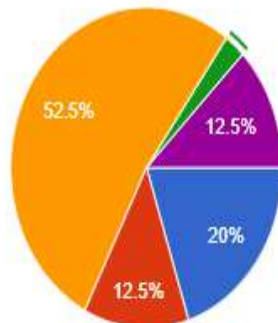


- Yes / होय
- No / नाही
- Do not have enough information / पुरेशी माहिती नाही
- have heard about them / त्यांच्याबद्दल ऐकले आहे

Do you inform your patients about national health awareness programs ? / तुम्ही तुमच्या रुग्णांना राष्ट्रीय आरोग्य जागृती कार्यक्रमांबद्दल माहिती देता का?



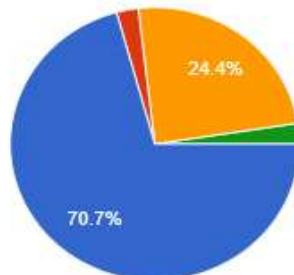
40 responses



- Yes, regularly / होय, नियमितपणे
- Yes, but often / होय, पण अनेकदा
- Yes, sometimes only / होय, कधी कधी फक्त
- Yes, if only patient asks / होय, जर रुग्णाने विचारले तरच
- No / नाही

How do patients respond to the national health awareness programs information given by you ? / तुम्ही दिलेल्या राष्ट्रीय आरोग्य जागृती कार्यक्रमांबद्दल माहितीला रुग्ण कसा प्रतिसाद देतात?

41 responses



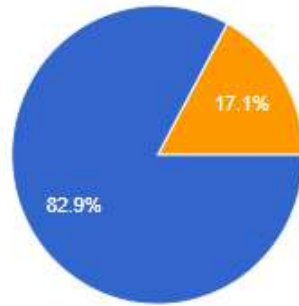
- Positive / सकारात्मक
- Negative / नकारात्मक
- Confused / गोंधळले
- Depending upon patients



Do you think these programs are beneficial to you and public / तुम्हाला असे वाटते की हे कार्यक्रम तुमच्यासाठी आणि जनतेसाठी फायदेशीर आहेत



41 responses

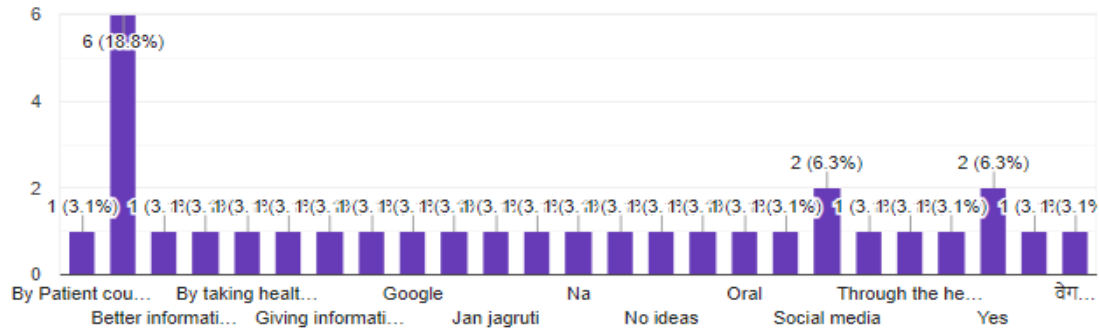


- Yes, but awareness should be created/ होय, पण जागरूकता निर्माण झाली पाहिजे
- No, changes need to be made / नाही, बदल करणे आवश्यक आहे
- More information and services need to be provided /अधिक माहिती आणि सेवा प्रदान करणे आवश्यक आहे
- Not sure / खत्री नाही

How will you provide efficient information about public health program / तुम्ही सार्वजनिक आरोग्य कार्यक्रमाविषयी कार्यक्षम माहिती कशी प्रदान कराल



32 responses

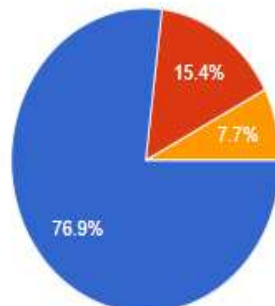


• **Survey data from Physician**

Do you know about some public health awareness program / तुम्हाला काही सार्वजनिक आरोग्य जनजागृती कार्यक्रम माहिती आहे का



26 responses



- Yes / होय
- No / नाही
- Do not have enough information / पुरेशी माहिती नाही
- have heard about them / त्यांच्याबद्दल ऐकले आहे

Do you know about **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS)** / कर्करोग, मधुमेह, हृदय व रक्तवाहिन्यासंबंधी रोग आणि स्ट्रोक (NPCDCS) च्या प्रतिबंध आणि नियंत्रणासाठी राष्ट्रीय कार्यक्रमाबद्दल तुम्हाला माहिती आहे का?



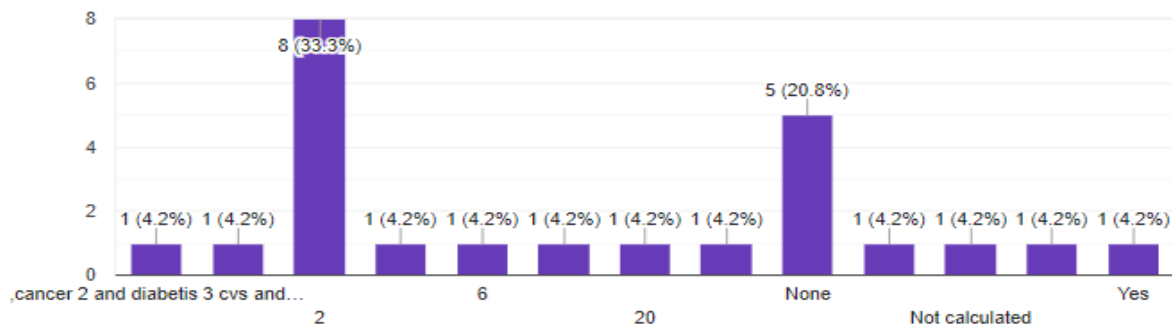
26 responses



How many Cancer, Diabetes, Cardiovascular Diseases and Stroke patients have visited you in past one year ? / गेल्या एका वर्षात तुम्हाला किती कर्करोग, मधुमेह, हृदय व रक्तवाहिन्यांचे आजार आणि पक्षाघाताचे रुग्ण भेटले आहेत?



24 responses



Do you think these programs are beneficial to you and public / तुम्हाला असे वाटते की हे कार्यक्रम तुमच्यासाठी आणि जनतेसाठी फायदेशीर आहेत

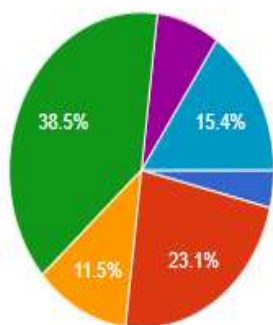


26 responses



Do you inform your patients about national health awareness programs ? / तुम्ही तुमच्या रुग्णांना राष्ट्रीय आरोग्य जागृती कार्यक्रमांबद्दल माहिती देता का? [Copy](#)

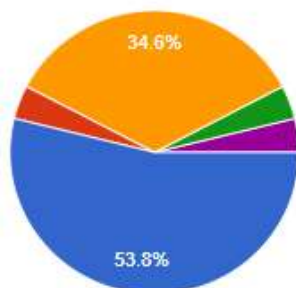
26 responses



- Option 1
- Yes, regularly / होय, नियमितपणे
- Yes, but often / होय, पण अनेकदा
- Yes, sometimes only / होय, कधी कधी फक्त
- Yes, if only patient asks / होय, जर रुग्णाने विचारले तरच
- No / नाही

How do patients respond to the national health awareness programs information given by you ? / तुम्ही दिलेल्या राष्ट्रीय आरोग्य जागृती कार्यक्रमांबद्दल माहितीला रुग्ण कसा प्रतिसाद देतात? [Copy](#)

26 responses



- Positive / सकारात्मक
- Negative / नकारात्मक
- Confused / गोंधळले
- I hadn't visited.
- Some positive, some negative.

How will you provide efficient information about public health program / तुम्ही सार्वजनिक आरोग्य कार्यक्रमाविषयी कार्यक्षम माहिती कशी प्रदान कराल

17 responses

- By videos
- Improve Telecommunications and media spread
- By using mass communication along with my batchmates
- I will demonstrate model in front of public
- By more advertising the scheme of govt
- By use of more social media we can deliver information effectively
- By creating awareness about the diseases among the people and acknowledge them about the importance of the programme
- शासकीय रुग्णालयात जाणे. कॅम्प असेल त्या ठिकाणी जावून योग्य ती तपासणी करून घेणे

How will you provide efficient information about public health program / तुम्ही सार्वजनिक आरोग्य कार्यक्रमाविषयी कार्यक्षम माहिती कशी प्रदान कराल

17 responses

By videos
Improve Telecommunications and media spread
By using mass communication along with my batchmates
I will demonstrate model in front of public
By more advertising the scheme of govt
By use of more social media we can deliver information effectively
By creating awareness about the diseases among the people and acknowledge them about the importance of the programme
शासकीय रुग्णालयात जाणे. कॅम्प असेल त्या ठिकाणी जावून योग्य ती तपासणी करून घेणे

**From the above survey we can say that:**

**Through Public Survey: -**

The results of the public survey provide valuable insights into the health behaviors, awareness, and perceptions of the surveyed population, particularly concerning non-communicable diseases (NCDs) and national health programs. Notably, the findings reveal a concerning trend in health practices, with only 37.2% of respondents engaging in regular exercise and 63.2% undergoing annual physical examinations. This pattern places a significant portion of the population at an elevated risk for developing lifestyle-related NCDs. Furthermore, the survey indicates a substantial gap in health insurance coverage, as only 26.9% of respondents have secured health insurance for hospitalization expenses. This lack of coverage poses a potential barrier to accessing efficient treatment, particularly in the context of NCDs. On a positive note, the survey highlights a commendable level of awareness within the population regarding NCDs, with 82.6% demonstrating knowledge of these diseases. However, there appears to be a varying degree of awareness concerning national health programs, with 52.6% being informed about the National Healthcare Program and 44.9% aware of the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS). Interestingly,

pharmacists emerge as key contributors to public awareness, with 37.5% of the population attributing their introduction to the national healthcare program to pharmacists. The survey also reflects a positive attitude toward national health programs, as 86.2% of respondents express interest in utilizing such programs in the future. This positive sentiment aligns with the perception of 82.3% of the public, who believe that these programs are beneficial to the community. In conclusion, the survey outcomes underscore the importance of targeted interventions to enhance health-related practices, improve health insurance coverage, and further amplify public awareness, with a notable role attributed to pharmacists in disseminating information about national health initiatives. The overall positive reception of these programs by the public signifies a potential foundation for future health interventions and underscores the significance of continued efforts to promote public health awareness and engagement.

**Through Pharmacist Survey: -**

A survey was conducted among pharmacists to gather insights into their knowledge of public health initiatives, their communication practices with patients, and the response of patients to these awareness programs. The findings reveal varying degrees of awareness and engagement among pharmacists, highlighting areas for improvement



in promoting public health at the community level. Public health awareness programs play a pivotal role in preventing and controlling chronic diseases. Pharmacists, as frontline healthcare professionals, have a unique opportunity to contribute to these initiatives by disseminating relevant information to patients. This study investigates the extent of pharmacist awareness, knowledge, and communication practices regarding national health awareness programs.

#### **Awareness of Public Health Programs:**

Seventy-five percent of surveyed pharmacists demonstrated awareness of some public health awareness programs, indicating a general acknowledgment of the importance of these initiatives within the pharmacy profession.

#### **Knowledge of NPCDCS:**

Surprisingly, only 55% of pharmacists were found to be aware of the NPCDCS, revealing a gap in knowledge concerning a critical national program addressing major chronic diseases.

#### **Communication Practices:**

Approximately 52.5% of pharmacists reported occasionally informing their patients about national health awareness programs. This suggests a potential opportunity for improvement in consistent communication practices within the pharmacy setting.

#### **Patient Response:**

Among the surveyed pharmacists, 70.7% reported positive responses from patients regarding national health awareness programs. This encouraging outcome underscores the potential impact of pharmacist-led initiatives in positively influencing patient behavior and attitudes toward public health.

#### **Through Physician Survey: -**

This survey aimed to comprehensively assess the level of awareness and engagement among physicians in public health awareness programs, focusing particularly on the National Programme for Prevention and Control of Cancer, Diabetes,

Cardiovascular Diseases, and Stroke (NPCDCS). The results indicate that a substantial majority of physicians, approximately 76.9%, possess knowledge of various public health awareness programs, underscoring a recognition of the significance of these initiatives within the medical community. However, there appears to be a notable gap in specific awareness, as only 53.8% of physician's demonstrated knowledge of the NPCDCS, revealing room for improvement in disseminating information about this crucial national program. Furthermore, the survey findings illuminate communication practices between physicians and their patients, with only 38.5% of physicians reporting occasional communication about national health awareness programs. This highlights a potential area for improvement in establishing consistent channels for physicians to convey information to patients in the context of public health initiatives. Despite these communication challenges, the data from physicians indicate a positive response from 53.8% of patients regarding national health awareness programs, emphasizing the potential impact of physician-led initiatives in shaping patient attitudes and behaviors toward public health. These findings collectively underscore the importance of targeted interventions to enhance physician knowledge of specific national health programs, promote consistent communication practices, and maximize the positive impact of physician-patient interactions on public health awareness and engagement.

#### **CONCLUSION**

In conclusion, the outcomes of our study indicate a significant association between awareness of the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS) and heightened public health awareness, suggesting a potential avenue for positively influencing disease prevalence. The identified knowledge gap among physicians, with



only 53.8% exhibiting awareness of the NPCDCS, underscores the need for targeted educational interventions to enhance healthcare professionals' understanding of specific national health programs. Our findings also emphasize the pivotal role of public health professionals, particularly pharmacists, as key stakeholders in the dissemination of concise health messages to targeted populations. Leveraging the expertise of pharmacists to facilitate increased awareness can contribute significantly to public health initiatives, potentially leading to better disease control outcomes. Nevertheless, further research is imperative to validate the efficacy of utilizing social media channels as a platform for disseminating health-related information and fostering the adoption of healthy behaviors. In a cross-cultural context, the impact of social media on health knowledge and behavioral changes requires nuanced exploration, considering diverse sociodemographic factors and cultural nuances that may influence information reception and interpretation. The integration of social media into public health strategies warrants thorough investigation to elucidate its potential as a supplementary tool for health communication, ensuring its effectiveness across diverse populations. In essence, our study lays the groundwork for future research endeavors aimed at refining and expanding our understanding of the multifaceted dynamics involved in utilizing the NPCDCS and engaging healthcare professionals, particularly pharmacists, in enhancing public health awareness. The opinions expressed by pharmacists and physicians converge on several key strategies to improve public health awareness and engagement in programs such as the National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS). Both professional groups emphasize the importance of leveraging modern communication channels, including

telecommunications, media spread, and social media, to effectively disseminate information. Additionally, organizing events such as blood donation camps is suggested as a tangible and community-oriented approach to raise awareness. The utilization of visual aids, including demonstrations, videos, and mass communication, is advocated to convey information comprehensively and to a broad audience. The consensus among respondents also underscores the significance of creating awareness about diseases, emphasizing the importance of these programs and their benefits in non-technical and easily understandable terms. Furthermore, there is a shared sentiment regarding the role of personal connections and family, with suggestions to share knowledge within families, particularly targeting children who can further propagate awareness. In summary, the collective insights from pharmacists and physicians highlight the multifaceted nature of public health awareness efforts, emphasizing the need for a diverse and inclusive approach that combines technological, community-oriented, and family-based strategies to achieve widespread understanding and participation in health programs.

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Authors don't have any conflict of interest with any person or institution.

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