United Way Mumbai

Knowledge, Attitude, Practice (KAP) Study for Malaria and Dengue in Mumbai

Youth for Healthy Mumbai 2015

FIGHT THE BITE

S D Welfare Trust
A SHAPOORJI PALLONJI - DILIP THACKER GROUP JOINT INITIATIVE

राष्ट्रीय सेवा योजना NATIONAL SERVICE SCHEME

मुंबई आरोग्य अभियान
आपली मुंबई, निरोगी मुंबई

Youth for Healthy Mumbai: Knowledge, Attitude, Practice (KAP) Study on Malaria and Dengue in Mumbai.

Youth for Healthy Mumbai is a citywide campaign in response to the increase in the incidences of monsoon ailments, with focus on Malaria and Dengue in Mumbai city, every year during the monsoon season. The magnitude of these ailments has been alarming over the past few years. Along with access to quality health care, lack of education among citizens on basic information on prevention of such ailments, dos and don'ts, etc. aggravate the situation on ground. Spread of such diseases can be prevented and controlled if citizens are aware of basic but effective steps to prevent these diseases. While the focus of the public health department is on providing medical facilities to citizens suffering from these diseases, the support of organizations such as United Way Mumbai, to undertake educational campaigns across the city, for much needed, on-ground educational activities becomes crucial.

This campaign, started in 2015, aimed to address this challenge through public private partnership between the Municipal Corporation of Greater Mumbai, National Service Scheme of the University of Mumbai, SD Welfare Trust and United Way Mumbai. It endeavoured to leverage the power of college youth volunteers in the city, who are trained as Peer Health Educators to help in reaching out to communities, by means of undertaking awareness generation activities in their respective college neighborhoods. Thus, active community participation and long lasting impact for creating healthy communities have been the salient features of this campaign.

This study has been undertaken with the following goals:

- To understand the Knowledge, Attitude and Practices of citizens in identified municipal wards, in Mumbai city, towards Malaria and Dengue
- To measure impact of the YHM campaign by ascertaining awareness level of Malaria and Dengue and campaign activities

Our endeavour is to build knowledge on awareness and health seeking behaviours of community members about critical ailments such as Malaria and Dengue. This report also assesses campaign methods to positively influence these health practices. We trust this report will be of help to public health officials, CSR professionals, NGOs, researchers, educational institutions etc. for advocacy, education and campaigning on monsoon ailments in the city of Mumbai.

Youth for Healthy Mumbai 2015

FIGHT THE BITE

Acknowledgement from Health Department of the Municipal Corporation of Greater Mumbai

Office of the Asst. Health [Surveillance]
Municipal Corporation of Greater Mumbai
Ward No. 5, Kasturba Hospital, Sane Guruji Marg,
Opp. Arthur Road Jail, Chinchpokli (W),
Mumbai 400 011 Tel.: 23083664

To,

Smt Jayanti Shukla

Chief Executive Officer

United Way Mumbai

Dear Smt. Shukla,

As you are aware, Malaria and Dengue have been a constant threat to the citizens of Mumbai during the monsoon season every year. To combat the situation, the Public Health Department of the Municipal Corporation of Greater Mumbai (MCGM) has been actively making multi-dimensional efforts and the results are visible. However, considering the challenges posed by the vast and diverse population in the city, this fight requires strong and collective efforts through public-private partnership and community participation.

This is where we acknowledge the efforts of United Way Mumbai (UWM) and your unique campaign, "Youth for Healthy Mumbai (YHM)". This campaign is an excellent example of a multi-stakeholder partnership where UWM has played a pivotal role in bringing together different stakeholders such as Public Health Department, MCGM, National Service Scheme of University of Mumbai, SD Welfare Trust and college youth under one umbrella and with the sole purpose of fighting vector borne diseases by working at community level.

YHM was an excellent example of an extensive community education campaign on Malaria and Dengue in high risk city areas identified by MCGM, with active participation of NSS student volunteers as peer health educators to educate citizens on key aspects of both these diseases. These included symptoms, preventive methods, need for voluntary medical reporting in case of experience of any of the symptoms of Malaria and Dengue etc.

Through this campaign, MCGM and UWM were able to train 1000 college youth as peer health educators who in turn reached out to 1, 60,000 citizens through innovative and effective means of Information-Education-Communication of street play performances, one to one interactions, home visits etc. This is indeed a commendable feat.

We appreciate the fact that the YHM campaign worked on an effective strategy of channelizing youth power for addressing critical community health challenges in the city. We would like to thank UWM for the key role you have played in designing and execution of this campaign.

We look forward to your continued support to the Public Health Department, MCGM in similar community initiatives and look forward to strengthening this collaboration in the years to come.

Regards.

D.E.H.O. ZONE - IV
Dr. Santosh K. Revankar
Dy. Executive Health Officer
Malaria Surveillance Programme

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CEO's Message

Dear Friends,

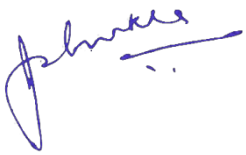
The United Way movement is recognised globally for the unique and participatory strategies adopted for creating lasting Community Impact. In our endeavour to build sustainable communities, **United Way Mumbai (UWM)** has been making consistent and collaborative efforts by addressing key societal challenges in the community.

Youth for Healthy Mumbai is a citywide campaign in response to the alarming increase in the incidence of vector borne diseases during the monsoon season every year in Mumbai Along with inadequate access to quality health care, lack of awareness and basic education on prevention of such ailments among the citizens of the city has only aggravated the situation. The spread of such diseases can be prevented and controlled if citizens are made aware of basic but effective steps to prevent these diseases. While the focus of the municipal public health department is on providing medical facilities to people affected by such diseases,, it requires support of organizations such as UWM to help spread awareness on such health related issues, and also inculcate a sense of commitment among the citizens to come forward and work hand in hand with the public health authorities to help control these diseases.

In response to this urgent need in the community, the **Youth for Healthy Mumbai** campaign was conceptualized and spearheaded by UWM in 2010, in partnership with the **Municipal Corporation of Greater Mumbai's Public Health Department**, and the **National Service Scheme (NSS)** of the **University of Mumbai**. This campaign endeavoured to leverage the collective power of the youth of the city-students in particular, and their willingness to contribute towards a meaningful community impact activity, by volunteering to be a part of the campaign and help in reaching out to the communities in the neighbourhood of their respective colleges. In 2015, the campaign was scaled up to cover six critical municipal wards where high incidences of Malaria and Dengue were seen, with support from **SD Welfare Trust,** and aimed to address this challenge through this **public private partnership, once again leveraging the willingness of college students to join hands with the team at UWM to work towards creating healthy communities.** In this endeavour, we have received

tremendous support from MCGM's Public health officials who supported UWM by training of over a 1000 college youth as **Peer Health Educators** on Malaria and Dengue. These trainings covered key aspects of Malaria and Dengue including their symptoms, prevention, need for voluntary medical reporting in case of experience of any of the symptoms etc. Armed with this knowledge, the peer health educators carried out high impact and innovative **Information-Education-Communication** interventions in vulnerable and high risk communities reaching out to more than 1, 60,000 citizens over a period of 6 months

This report is our endeavour to gauge the impact of this campaign. Quantitative research methodology was adopted for this study and 3500 citizens from the intervention areas were interviewed to understand their **Knowledge, Attitude and Practices** towards Malaria and Dengue and recall of the campaign activities. The project generated great learnings and insights on the efficacy of our interventions and on tackling health issues along with an overall evaluation of the impact and recall of this campaign, which we have documented in this report. We hope this report will be of value to stakeholders, both public and private, and especially those who work in the field of community health challenges.



Best wishes

Jayanti Shukla

CEO, United Way Mumbai

Acknowledgment

Youth for Healthy Mumbai campaign is a true example of the collective community impact for addressing key community health challenges of Malaria and Dengue. While United Way Mumbai (UWM) played the role of catalyst for this project, there were several organizations (public and private) and individuals who played a pivotal role in ensuring maximum efficacy of the project deliverables.

We were privileged to have partnered with **Public Health Department of Municipal Corporation of Greater Mumbai** for campaign designing, identification of vulnerable communities, necessary permissions and approvals for running the campaign, activities, training college youth as peer health educators, along with providing strategic inputs for the overall project which proved to be critical for the success of this project. Our sincere thanks to all the concerned officials in this department.

A special thanks to the college students from 30 city colleges who took volunteering to another level by their invaluable contribution as 'Peer Health Educators'. College students are an integral part of all out community impact initiatives. Here we must acknowledge the proactive support given by the **National Service Scheme Cells of University of Mumbai** for authorizing UWM and guiding to enlist students from the NSS units of city colleges to volunteer for this project.

We sincerely thank **SD Welfare Trust** for their continuous support in fight against Malaria and Dengue. SD Welfare Trust was instrumental in success of this campaign through their CSR leadership contribution.

Contents

List of Figures, Tables and Graphs:

Chapter 1 - Introduction

Youth for Healthy Mumbai (YHM) is a citywide campaign organized in response to the increasing incidences of monsoon related ailments every year in the city, especially during the monsoon season. In 2015, the campaign was conceptualized and spearheaded by United Way Mumbai (UWM), in partnership with the Public Health Department of the Municipal Corporation of Greater Mumbai (MCGM) and the National Service Scheme (NSS) of the University of Mumbai and was supported by SD Welfare trust.

The focus of the campaign was to address lack of awareness about mosquito borne diseases such as Dengue and Malaria, which leads to growing mortality and morbidity. The campaign aimed at awareness generation among the general public about transmission of these diseases and for a change in daily health practices for prevention of these diseases. Following are the campaign objectives:

- To create awareness among citizens about preventive and treatment measures of Monsoon Ailments with focus on Malaria and Dengue
- To facilitate public private partnership for complementing the efforts of MCGM's public health department

This campaign endeavoured to leverage the power of student volunteers from various colleges in the city, by training them to be Peer Health Educators so that they can play an instrumental role in reaching out to the communities identified as high risk by the MCGM health department. These trained Peer Health Educators further carry out awareness generation activities in the selected communities by means of one to one interactions, pamphlet distribution, street play performances, public rallies, etc.

In 2015, the campaign was carried out in 'at-risk' areas in six wards (highlighted by MCGM) in the Greater Mumbai Area; namely E, F/S, G/S, K/E, L and S wards. These wards are considered "at risk" because of the magnitude of the Malaria and Dengue cases prevalent. These wards were identified by the public health department of Municipal Corporation of Greater Mumbai (MCGM) and campaign interventions were focused in communities of these wards.

Chapter 2 – Literature Review

Climate change is a global concern. Developing countries suffer the implications of climate change strongly due to limited resources and are expected to face an increase in the burden of infectious diseases, such as Malaria, Dengue and Cholera (Dhara, Schramm, & Luber, 2013). Malaria is one of the most serious global concerns from a public health perspective – with more than 1 million deaths occurring each year (Dhara et al., 2013).

According to the World Health Organization's annual report on Malaria (World Malaria Report, 2015), there were 214 million new cases of Malaria worldwide, in 2015. Out of this, 1.5 million cases were reported in India (Dhawan et al., 2014).

Additionally, India is reported to have the maximum burden of Dengue, with 34% of global Dengue cases being reported in India alone (Malhotra, Yadav, & Dudeja, 2014). In spite of various awareness campaigns in media, the number of reported cases of Dengue fever doubled up from 40,571 cases in 2014, to 84,391 cases in 2015 in Mumbai. (Travasso, 2015).

Studies assessing the KAP towards Malaria and Dengue have been carried out in endemic areas such as Mumbai, Delhi, Bihar and Jharkhand, to name a few. A cross-sectional comparative study, examining KAP towards Malaria in four economically diverse neighbourhoods in Mumbai was conducted. Findings of this study reported that understanding of Malaria varies according to socio-economic and demographic factors. Television and print media such as newspapers and magazines were reported to be the most popular sources to provide information to the public (93% in the city and 90.5% in the slums) (Dhawan et al., 2014). Similarly, another cross- sectional study conducted in Squatters Colony in Mumbai (one of the target areas in the present study) reported 39.7% participants having low level of knowledge regarding Malaria while 53.7% reported an average level of knowledge (Adhav, Kadam, Desai, & Deogune, 2015). Awareness and practices towards usage of preventive strategies such as mosquito nets, insecticide sprays and bed nets was found to be low (Adhav et al., 2015; Dhawan et al., 2014). A common trend associated with the majority of studies reviewed was that although the levels of knowledge varied from moderate to high among the respondents, it does not have an observable effect on the attitudes and practices towards the disease (Dhawan et al., 2014; Tenglikar, Hussain, Nigudgi, & Ghooli, 2016; Tyagi, Roy, & Malhotra, 2005). Cumulative findings from studies highlight the need for direct communication with the communities in order to inculcate Malaria prevention practices (Haq S, 2013; Suhas Kadam, 2015; Tyagi et al., 2005).

Against this backdrop, awareness and prevention initiatives from NGO's and other organisations are imperative, in order to control the spread of mosquito borne diseases. Every year the seasonal monsoon in Mumbai brings with it a host of water and mosquito borne diseases such as Diarrhoea, Malaria, Dengue and Chikungunya. Malaria and Dengue are especially rampant during this season, in areas where flooding or perennial water logging occurs. The Centre for Disease Control and Prevention (CDC) lists Mumbai and Delhi as two of the major cities that pose a moderate risk of Malaria (www.cdc.gov). Mumbai is currently the fourth worst Malaria-affected city in India (Dhawan et al., 2014).

Causal Analysis of disease burden of Malaria in India by WHO reveals poor economic conditions leading to mosquito-genic condition favouring transmission as well as poor domestic conditions facilitating increased man to vector contact to be prime causative factors. Socio demographic factors such as urbanization, population growth, immigration and deforestation magnify these problems leading to an increased burden on the public health system (Dhara et al., 2013). Data from the national census of 2001 reported that 47.3% of the total population of Mumbai comprises migrants (5.8 million) (Jha & Kumar, 2016). Additionally, a survey conducted by the MCGM in 2011 revealed that 20% of Mumbai's total population (approximately 25 Lakh people) are below the poverty line and cannot afford the treatment for Malaria (The Times of India, 2011).

Earlier perception of Malaria prevalence was limited to rural areas, and urban Malaria was considered to be a marginal problem. Therefore, urban areas were not targeted through the National Malaria Eradication Program in 1958. Consequently, incidence of Malaria in rural areas came down drastically, while rates of Malaria in urban areas rose rapidly. Rapid urbanization and rural "push" towards towns for better opportunities has resulted in the creation of haphazard and unplanned "urban slums". (National Vector Borne Disease Control Program). About 10% of the total Malaria cases in India are reported from urban areas from towns such as Mumbai, Chennai, Gurgaon, etc. Similarly, the focus of a majority of KAP studies is on rural areas across India. Literature measuring the KAP towards Malaria in the urbanized areas of major cities such as Mumbai and Delhi is limited. ("Personal protection behaviours against Malaria in India," n.d.)

Conducting research into the knowledge, practices and attitudes of the urban population towards Malaria has multiple advantages. Firstly, it enables decision makers to make informed decisions and design interventions based on the findings. Secondly, it contributes towards the bank of existing literature. Lastly, although efforts are made by local government bodies and private organizations towards dissemination of information primarily through IEC activities, it is rare that any efforts are taken towards evaluating the same. Through the present KAP study we aim to evaluate the impact of the IEC activities conducted under the Youth for Healthy Mumbai 2015 campaign, as well as to acquire findings to base future interventions.

Chapter 3 – Study Design

This chapter outlines the objectives, geographic locations and research methodology of the study and explains how the data to address the research objectives and questions was collected.

3.0 Objectives of the Study

- To understand the existing knowledge, attitude and practice of the target population towards Malaria and Dengue
- To study health seeking behaviour of the respondents suffering from symptoms of fever (major symptom of Malaria and Dengue) as a result of YHM campaign interventions
- To assess the exposure and recall of the YHM activities among target population

3.1 Geographical Area of the Study

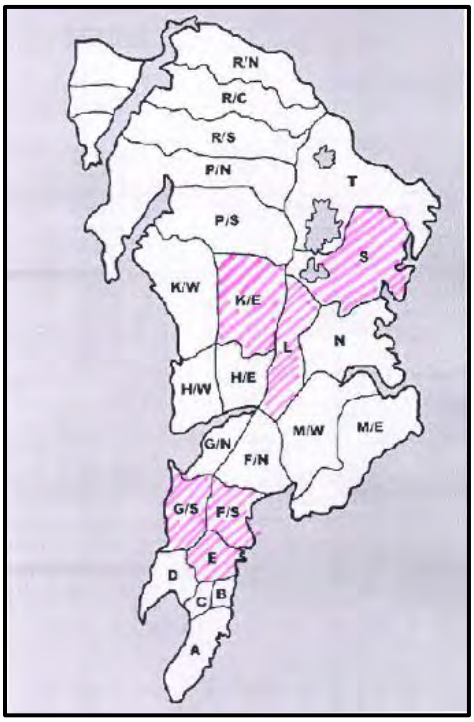


Figure 1: Map of wards in Greater Mumbai area. The shaded areas were target areas of Youth for Healthy Mumbai 2015 campaign and consequently the target areas for the KAP study.

3.1.1 Target Locations of the study

The study was carried out in the areas of six municipal wards, identified as 'at risk' by MCGM. The observations indicate most of the population residing in these locations belong to lower or lower-middle socio-economic class.

Table 1: List of Study Locations

Wards	Locations
E	Reay Road
	Nawab Tank
	Kamathipura
	Tadwadi
	J.J. hospital campus
F South	Naigaon Health Post
	Family Welfare Center
G South	BDD Chawl,Worli
	Bawan Chawl, Worli
K-East	Squatter Colony (Jogeshwari)
	Samrat Ashok Nagar (Vile Parle)
	Nehru Rd(Vile Parle)
L	Qureshi Nagar
	Bail Bazaar
	Near Tunga Hotel (Saki Naka)
	Nehru Nagar
S	Tulsit Pada
	Tembi wada (Ramabai Nagar)
	Sonapur
	Shriram pada
	Khindi Pada
	Indira Nagar
	Subhash nagar
	Tagore Nagar

3.2 Description of Research Design

The study design is cross-sectional in nature, because it compares the target audience contacted at a single point of time during the campaign period. In absence of baseline data, a cross-sectional study was designed to compare the improvement in knowledge levels, towards Malaria and Dengue between exposed and non-exposed target audiences, to program (YHM) activities.

To address the objective of the study, a multi-stage random sampling method was followed that supported the cross-sectional nature of study. Multi-stage sampling refers to sampling plans where the sampling is carried out in various stages. The quantitative method was adopted to collect data to capture the knowledge, attitude and practices of target population towards Malaria and Dengue and exposure to YHM campaign activities.

Figure 2: Detailed research design that was adopted for a quantitative survey:

3.2.1 Study Population

The target audience for the study were the respondents aged 18 years and above, residing in the study area during the period from August, 2015 (residing during campaign activity) April, 2016.

3.2.2 Sampling and Sample size

For the study purpose, a 5% sample size was calculated, based on the total households (67,491) covered during the campaign. This totalled to 3375, which was rounded off to a target sample size of 3500 households.. The following table defines sample distribution across the study locations.

The total sample allocated for each of the wards was further proportionately distributed among the intervention areas of each ward. The following table provides the details of the ward wise sample distribution, as well as the intervention locations.

Table 2: Ward-wise sample distribution, with location:

Wards	Approximate Households reached out during campaign period	Total Sample	Locations	Sample
E	5050	262	Reay Road	19
			Nawab Tank	21
			Kamathipura	135
			Tadwadi	54
			J.J. Hospital campus	34
F	6930	359	Naigaon Health Post	116
			Family Welfare Center	243
G-South	5120	266	BDD Chawl,Worli	164
			Bawan Chawl, Worli	102
K-East	13060	677	Squatter Colony (Jogeshwari)	627
			Samrat Ashok Nagar (Vile Parle)	29
			Nehru Rd (Vile Parle)	21
L	18259	947	Qureshi Nagar	313
			Bail Bazaar	407
			Near Tunga Hotel (Saki Naka)	19
			Nehru Nagar	208
S	19072	989	Tulsi Pada	83

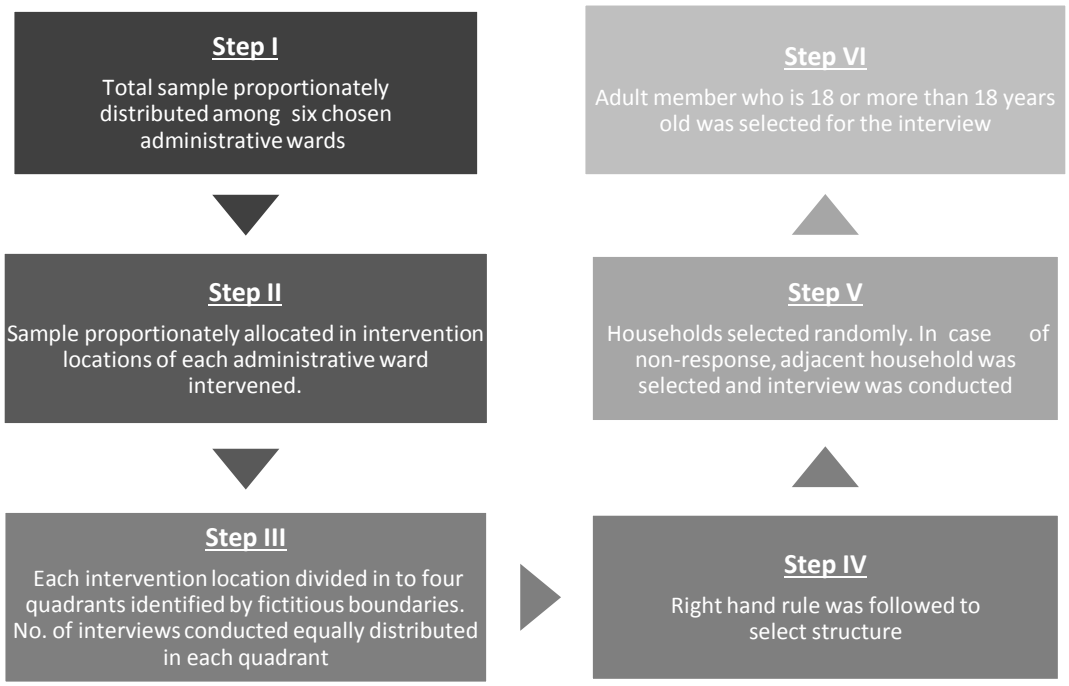
			Tembi wada (Ramabai Nagar)	39
			Sonapur	34
			Shriram pada	26
			Khindi Pada	26
			Indira Nagar	25
			Subhash nagar	189
			Tagore Nagar	567

3.2.3 Data collection

A structured tool with close-ended questions was designed to collect data. A 37-item questionnaire was prepared, divided into three sections: Section 1 gathered general data about the respondent; Section 2 assessed KAP; and Section 3 assessed the exposure to YHM 2015 campaign activities. This questionnaire was also translated into Hindi. Back translation process was adopted to ensure correct translation from English to Hindi.

Figure 3: Sample Selection process

The following diagram explains the sample selection process.



3.3 Recruitment of field team and training:

A team of professional surveyors was hired by UWM for primary data collection in the target areas. One day training was organized for investigators to familiarise them with various aspects of YHM campaign,

the purpose of the study and instructions on maintaining strict quality standards and guidelines while conducting interviews.

A pilot study with 35 households (n=35) was conducted at Naigaon area in F/South ward. Post-pilot study, debriefing of the investigators was organized to clarify their doubts pertaining to the questionnaire and fieldwork.

3.4 Ethical Issues:

Ethical issues are an important component of any research activity. As a first step, permission to conduct the study in the target areas was acquired from the MCGM offices and the process was carried out under the guidance of MCGM officials.

Participation from respondents was voluntary and only interviewees who gave their consent (after the purpose of the study had been explained to them) participated in the study. The respondents had the freedom to withdraw at any stage and all the information was kept confidential. The interviews were mostly conducted at their homes.

3.5 Quality Assurance:

Random quality checks were carried out by UWM staff by visiting target locations during field work. Back checks and spot checks were performed and timely inputs were provided to the field team to ensure the highest quality of data collection.

3.6 Data Management:

Completed questionnaires were numbered and sent to professional data entry operators. Data entry was monitored weekly.

3.7 Data Analysis:

Data was entered into Microsoft Excel sheets by data entry operators. After error-checking and data cleaning procedures, the data was analysed using SPSS 21.00 ***(License valid for year 2016)***

Chapter 4 – Background of Respondents

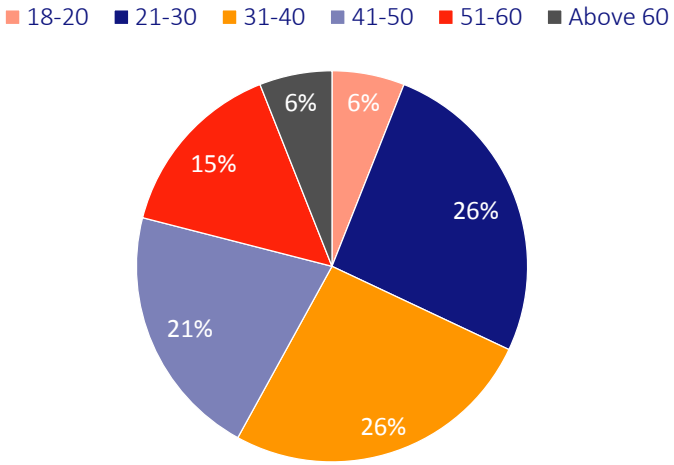
YHM campaign focused largely on the general population residing in the study area. Men and women (including senior citizens), and children, living in these areas are at risk of Malaria and Dengue as they live predominantly in *chawls* (*chawls* are residential apartment blocks and are typically 4 to 5 stories tall, with between 8 and 16 tenements on each floor and share a common balcony) and slums. Respondents for the study included general population - irrespective of gender. For this study, the enumerators from United Way Mumbai interacted with both men and women who were above 18 years and were residing in the study area during the campaign activity i.e. before August 2015 until April 2016.

A total of 3700 respondents were covered to achieve the total sample size of 3500. About 182 respondents fell in the 'refusal' category, including people who were busy or simply refused to interact. There were 18 incomplete interviews due to time constraints on the part of respondents. A total of 3500 complete interviews were conducted, where respondents answered all the questions from the questionnaire.

Out of the 3500 respondents who were interviewed, 69 % were women and 31 % were men. The respondents were selected randomly and during the time of the interview (afternoons) there were more women in the community than men. The present chapter discusses the variables of age, educational attainment and health-seeking behaviour (during fever) of the respondents.

4.0 Age Composition

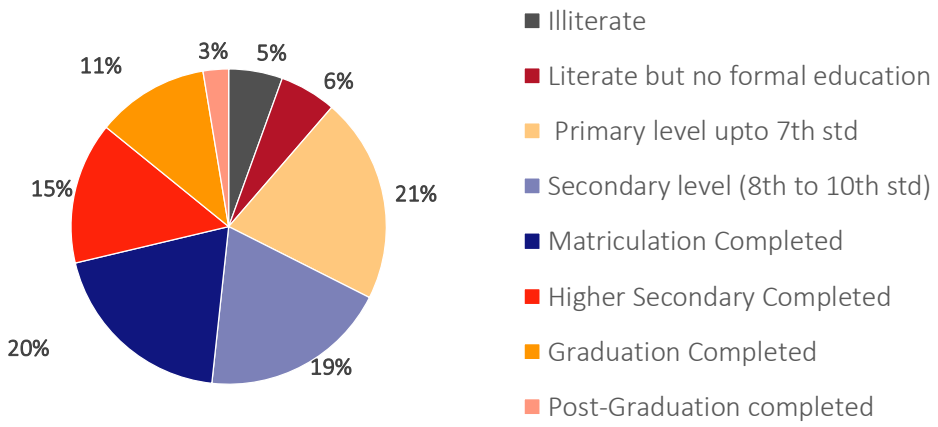
Graph 1: Percentage distribution of respondents by age



As seen in graph 1, most of the respondents (73 %) interviewed across the communities belonged to the age group of 21-50 years. An equal % of respondents (6%) were distributed across two categories i.e. age groups 18-20 years and above 60 years.

4.1 Educational Profile

Graph 2: Percent distribution of respondents by educational attainment



From the programmatic point of view, it was important that the study area comprised of literate population so that communication material could be devised in simple local language and would help them to understand the messages communicated. Graph 1.1 shows the percentage distribution of respondents by level of their education. It is apparent from the graph that only 6 % of the respondents were illiterate (not being able to read or write). A majority (94 %) of the respondents in the study area were literate.

4.2 Health seeking behaviour in fever case

Fever – also known as a high fever or a high temperature – is not by itself an illness. It's usually a symptom of an underlying condition, most often an infection. High fever is one of the major symptoms of Malaria and Dengue. The pattern of the fever may vary in the initial stages of infection and hence it is imperative that patients screen themselves for both illnesses. The campaign highlighted importance of screening for fever symptoms and consulting a doctor in case of fever. The study aimed at understanding steps taken by the respondents when he/she has symptoms of fever.

An introductory question was asked to the respondents on whether there were any cases of fever in their home during the post-intervention period (September 2015 to April 2016). The responses indicated that 80 % of the respondents reported cases of fever at home during the above mentioned period.

The respondents were also questioned about who had fever in the household and what action was taken by the respondents or by their family member in case of high fever. 93 % of the respondents mentioned that they consulted a doctor, 4 % of the respondents reported that they preferred to take rest at home, 3 % self-medicated and the remaining 1 % made dietary changes to reduce the fever

symptoms. The data also revealed that the respondents, who consulted a doctor, visited a private health care provider for treatment.

Key Highlights - 1

- Majority of the respondents interviewed in the study are in the age group of 21 to 50 years.
- 94 % of the respondents in study area were found to be literate. The "Literate Category" includes those respondents who are able to read and write or have acquired formal education.
- The YHM campaign emphasized the importance of screening for fever symptoms and consulting a doctor in case of fever. The study aimed at understanding steps taken by the respondents when he/she has symptoms of fever. In this context, respondents were asked whether there were any cases of fever in the family, between September 2015 and April 2016. Responses indicate that 80 % of the respondents reported symptoms of fever.
- A majority (93 %) of the respondents choose to take medical help from a doctor as their first action during a fever incidence, rather than self-medicating, or making dietary changes
- Respondents, who choose to seek medical help during the fever incidence, further revealed private health care providers were the preferred service provider during the incidence of fever.

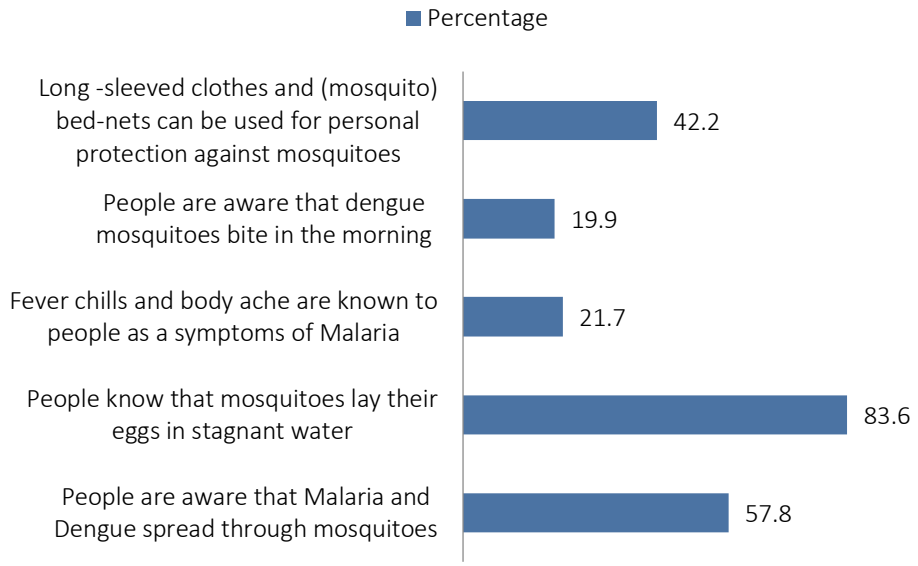
Chapter 5 – Knowledge, Attitude & Practice of Respondents towards Malaria & Dengue

This chapter describes the Knowledge, Attitude and Practices of respondents towards Malaria and Dengue in the study area.

5.0 Malaria and Dengue related knowledge

All respondents were asked basic questions related to Malaria and Dengue transmission, their symptoms and personal preventive measures. The following table provides with the details of the correct knowledge of the respondents on the each of the indicator.

Graph 3: Respondents' Knowledge about Malaria & Dengue*



***Total of 3500 Respondents**

57.8 % of the respondents were aware that mosquitoes served as a potential vector for transmitting Malaria and Dengue fever. However, 30 % of the respondents incorrectly believed that Malaria and Dengue could be contracted by water and 5.6 % believed that it could be contracted through air. It was surprising to know that 6 % of the respondents did not know how Malaria and Dengue are contracted. A

majority (83.6 %) of the respondents were cognizant of the fact that the Dengue mosquitoes breed in stagnant water.

Data shows that half of the respondents identified only fever as a symptom, though one-fourth of the respondents were able to correctly correlate fever, chills and body ache as symptoms of Malaria and Dengue. The Aedes mosquitoes are active and bite only in the morning. Interestingly, only about 19.9 % of the respondents were aware that this mosquito bites in the morning, but then again, a large proportion of respondents incorrectly believed that Dengue-carrying mosquitoes bite anytime of the day.

Less than half (42.2 %) of the respondents were aware of the measures to protect themselves against contact with mosquitoes by using insecticide treated bed nets and long sleeved clothes.

It could be inferred from the data that people's knowledge regarding Malaria and Dengue needs to improve. To bridge this gap in knowledge, it is essential to design the program in a way that educates people about the symptoms of Malaria and Dengue, focusing on symptoms like chills and body ache, along with fever, the modes of transmission of these diseases and time of transmission, with emphasis on various preventive personal measures like using insecticide treated bed nets, mosquito repellents etc.

5.1 Attitude towards Malaria and Dengue

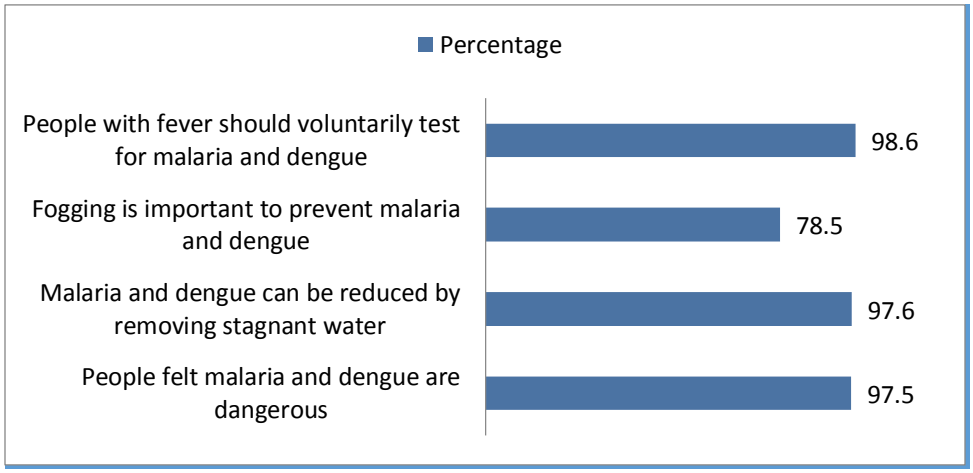
It was necessary to understand the respondents' attitude towards Malaria and Dengue as diseases, mainly to know their health seeking behaviour and use of preventive measures.

The respondents were assessed on their ability to give correct answer to the following statements:

1. Malaria and Dengue are dangerous
2. Malaria and Dengue can be reduced by removing stagnant water
3. Fogging is important to prevent Malaria and Dengue
4. People should voluntarily test for Malaria and Dengue.

There was a high level of awareness about Malaria and Dengue as gleaned from the responses given to the questions.

Graph 4: Respondents' Attitude towards Malaria & Dengue*



***Total of 3500 Respondents**

Almost all (97.5 %) the respondents regarded Malaria and Dengue as dangerous. This was probably because they were aware of the severity of the disease and that it could possibly lead to death. Respondents also demonstrated knowledge that stagnant water was a breeding site for mosquitoes thus reflecting their attitude that removing stagnant water could reduce the incidence of Malaria and Dengue.

Fogging plays an important role in controlling the spread of Malaria. A majority (78.5 %) of the respondents revealed a positive approach towards fogging as one of the preventive methods for control of Malaria. Among the respondents who felt that fogging is important (78.5 %), 72 % further mentioned that fogging should be done outside the residential premises while 27 % expressed fogging should be done inside enclosed spaces in the residential buildings. The remaining 1 % was not sure where the fogging should be done. YHM campaign addressed the importance of fogging and it appears that this information has played a role in the respondents' perception that fogging played a vital role in Malaria prevention.

Although the respondents differed in their opinion on whether the fogging was more useful if done inside or outside the residential premises, it is very important that the respondents' doubts and questions on fogging should be clarified, especially by making them understand the difference between outside and inside fogging and their benefits in Malaria and Dengue prevention

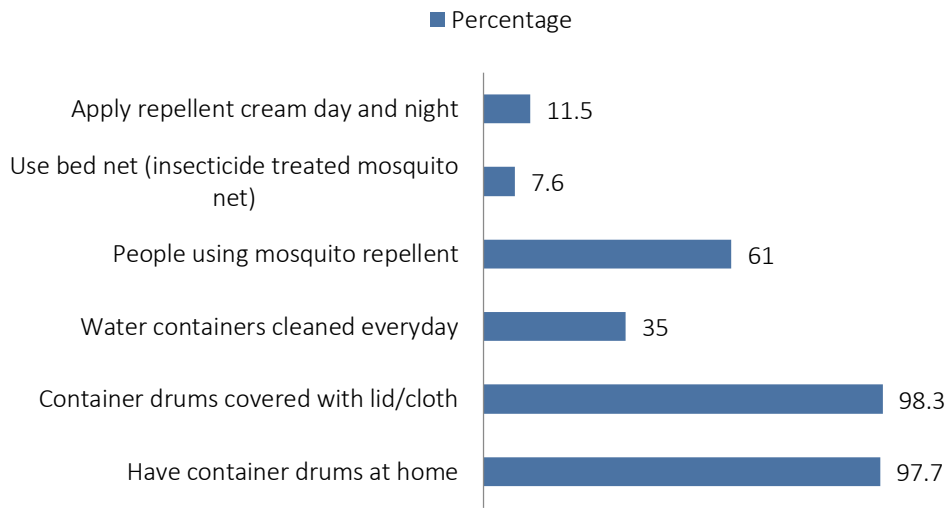
Another positive finding of the study was that the respondents felt that people with fever should voluntarily test for Malaria and Dengue. This showed that the respondents had a positive attitude towards Malaria and Dengue prevention, directing them to practice steps to reduce the prevalence of the disease.

5.2 Practices towards Malaria and Dengue

This section elaborates the primary preventive methods used by respondents, which include insecticide treated bed nets and mosquito repellents. The data was also collected to understand whether

respondents stored water in drums or containers within the house and outside the household and also to understand the frequency of cleaning of these storage containers /drums.

Graph 5: Practices Related to Malaria & Dengue*



***Total of 3500 Respondents**

The data elucidates that a majority of the participants (97.7 %) had containers/drums to store the water, both inside and outside the house. Only 2.3 % of the respondents share that they did not store water in containers or drums. Almost all the respondents reported that their water containers or drums were covered with a lid.

The water collected by respondents is stored in the containers or drums (both in the house and /or outside the house. Outside the house means the common area on the floor, in the gallery or somewhere else.)

Out of the 97.7 % respondents using containers or drums to store water (both in the house and/or outside the house 35 % of the respondents reported cleaning the drums/containers every day and 33 % reported cleaning it once a week. 19 % of the respondents cleaned their containers/drums just once a month and 11 % cleaned them only once in two to three months. Although it was common practice to cover the water containers /drums, this should be regarded as a positive step taken by respondents for prevention of Malaria and Dengue.

Though the use of insecticide treated mosquito nets at home was popular, only 7.6 % of the respondents used it, while a large proportion of respondents (98.3%) did not use insecticide treated mosquito nets for prevention of Malaria. 61 % of the respondents reported using a liquefied insect repellent vaporizer - like *All Out or Good Knight* - at home while sleeping. The use of any repellent cream was low (11.5 %) among the respondents, during day or night.

The information gathered from the respondents clearly indicated that there was knowledge about the effectiveness of use of insecticide treated mosquito bed nets and repellents in preventing Malaria, but that this knowledge was not translated into practice. The underlying reasons for knowledge not

transforming into a practice was probably because of constraints of space and finance, for example insecticide treated mosquito nets needed a larger space and houses were too small to allow that and financial constraints may have limited the buying of mosquito repellents.

Key Highlights - 2

Knowledge about Malaria and Dengue

- More than half of the respondents (57.8 %) were able to identify the mosquito as the primary vector responsible for transmitting Malaria and Dengue. The respondents also knew that stagnant water is the breeding site for mosquitoes.
- More than half of the respondents identified high fever as one of the symptoms of Malaria and Dengue. Data indicates that the respondents did not know about the combined symptoms -like fever, chills and body ache.
- The majority of the respondents were not aware that the Aedes mosquitoes are active and bite only in the morning. The peak biting periods are early in the morning.
- Only 42.2 % of the respondents knew that long-sleeved shirts/kurtas and trousers/salwar can be used for personal protection against mosquitoes, as there is less exposure of skin to mosquito bites.

Attitude towards Malaria

- Respondents perceived that removal of stagnant water will reduce the incidences of Malaria and Dengue and they felt that fogging is an important method to protect against Malaria.
- Encouraging, positive responses were observed directed towards Malaria prevention in the study where the respondents felt that people with fever should voluntarily test for Malaria and Dengue
- 78.5 % of the respondents have a positive attitude that fogging is useful as one of the preventive methods for control of Malaria.

Practices towards Malaria and Dengue

- A majority of the respondents stored water both inside and outside their homes in containers/drums which were covered by lids.
- 35 % of the respondents cleaned the water containers or drums (kept inside and outside their homes) everyday
- The respondents displayed a positive attitude towards prevention of Malaria and Dengue but did not translate it into practice. It is important to explore the barriers to using prevention methods like using insecticide treated bed nets and repellents.

Overall, the findings of the study suggests that there is a positive attitude in the study areas towards reducing the prevalence of Malaria and Dengue but this attitude did not correlate with the knowledge and practice of the respondents.

Chapter 6 – Impact of Exposure to IEC Activities

Information-Education-Communication (IEC) activities to spread awareness on Malaria and Dengue were carried out by Peer Health Educators trained as part of the campaign. Two types of IEC methods were used.

Mid media activity which focuses communication through art/folk: As part of this street play performances were carried out in communities identified. This included enacting an entertaining skit on critical messages related to Malaria and Dengue in public premises.

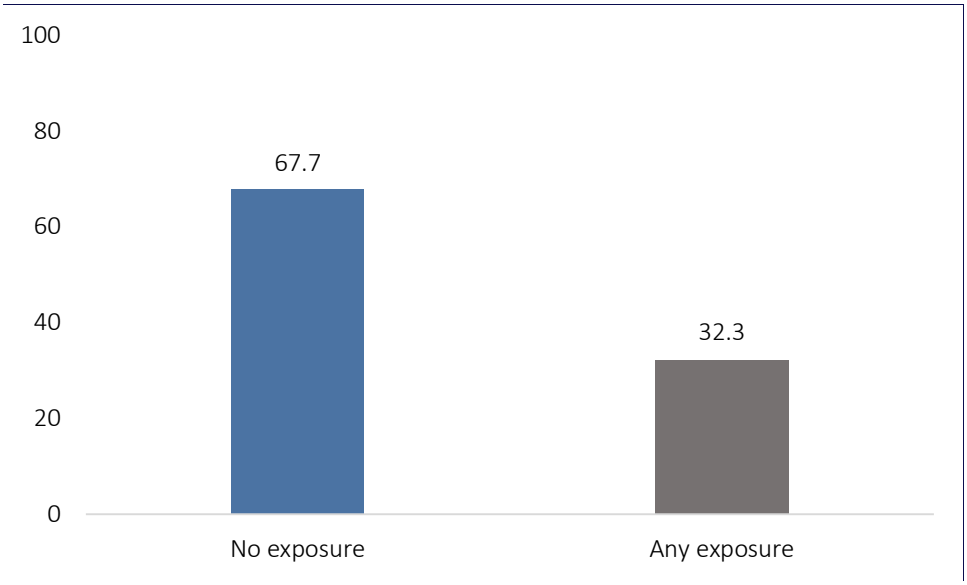
Interpersonal Communication Activities:

Public rally and one-to-one interactions: This included carrying banners, posters and placards with critical messages on Malaria and Dengue. This activity was followed by one–to-one interactions with the onlookers and residents of the communities. Peer health educators engaged and interacted with community members about key aspects of Malaria and Dengue, including symptoms, prevention methods, etc.

Distribution of Pamphlets: Peer Health Educators also distributed pamphlets with key messages on Malaria and Dengue. This activity was carried out after street play performances, public rallies and one–to-one interactions.

6.0 Level of exposure

Graph 6: Exposure to any IEC activity



It was found that almost one-third, of the respondents were exposed to at least any one of these three activities. Overall, the purpose of all the activities was to spread the awareness about Malaria and Dengue and how one should behave to reduce the incidence of these two diseases. The messages given through all the activities were also the same, therefore, to see the overall exposure level to the YHM campaign, exposure to at least one of the conducted activities was considered from the data.

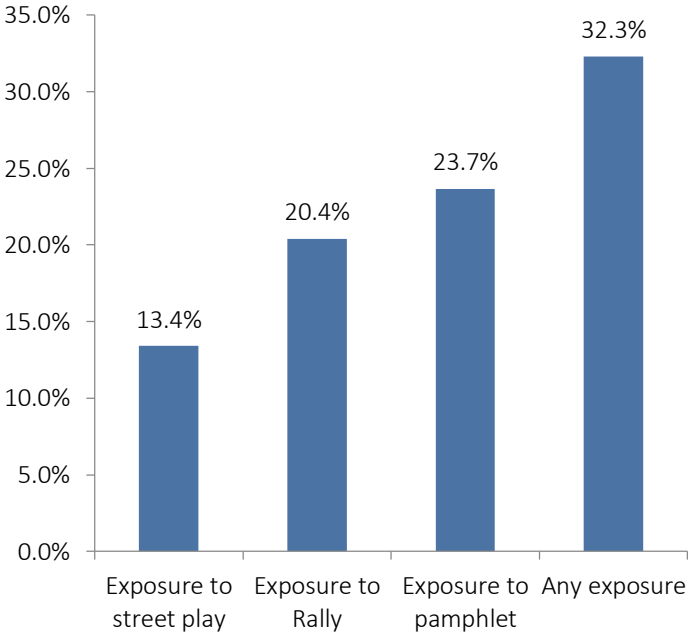
Activity wise exposure of respondents is as mentioned below:

Exposure to street play is only 13.4%, and it might be because the street plays were conducted in only four places. Almost one respondent out of five (20%) was exposed to the campaign via the rally activity. Separately taken, exposure to the pamphlet is higher among the respondents (almost 24%), as pamphlets were distributed along with the street play and also during the rally activity.

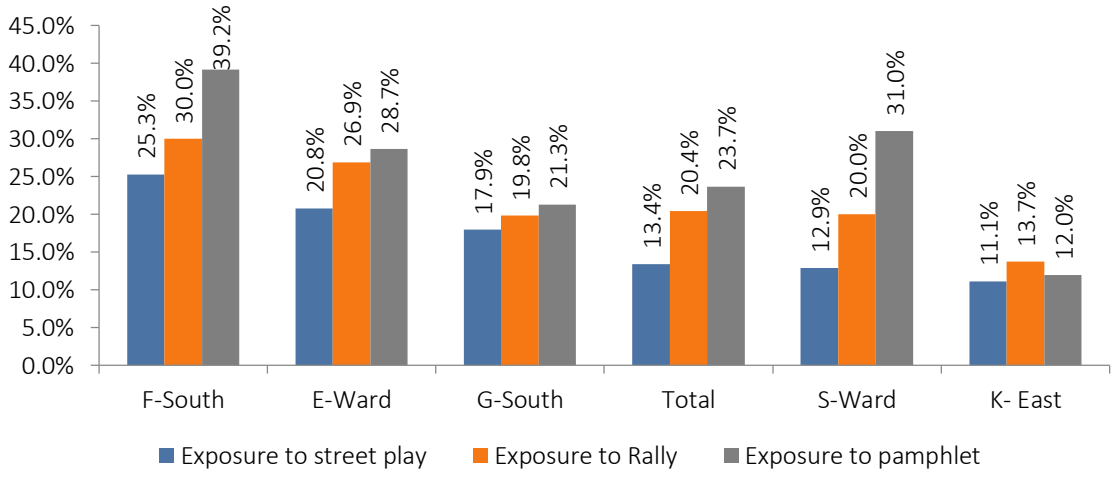
When looking at the ward-wise differentials in exposure, it was found that highest proportion of respondents from F-South ward (25%) was exposed to the street play followed by E ward (21%). Lowest exposure to street plays was found in L-ward (only around 8%). F-south ward has the highest street play exposure, which is expected as there were higher numbers of street-play activities conducted (total 10 drives and each spanning two hours).

Respondents from the F-south ward were more exposed to the rally activities or received more one-to-one interactions (30%) as shown in the figure below. Similarly, ward-wise differentials can be seen for the exposure to pamphlets, which are highest in F-south ward (39%) followed by S ward (31%)

Graph 7: Exposure to program activities



Graph 8: Ward wise %age of exposure by different activities



Overall exposure level is lowest in K-East ward for exposure to any one of the campaign activities (only around (20%), whereas it is highest in F-south ward (49%), followed by E-ward. In total around 32% of the respondents in the wards are exposed to at least one of the activities.

It was found that, mostly, the younger respondents, who were aged below 25 years, were exposed to the program activities more than the older respondents, although neither high nor considerable differences were found. Exposure is more among the males compared to their female counterparts, for any of the three activities.

Level of exposure by various background characteristics is shown below.

Table 3: Exposure to activities by background characteristics

Background characteristics		Exposure to any activities	Exposure to street play	Exposure to Rally	Exposure to pamphlet
Age of the respondent	Below 25 years	34.9%	14.3%	22.2%	26.5%
	26 to 35 years	34.2%	12.8%	21.2%	25.4%
	36 to 45 years	32.9%	13.3%	21.6%	23.6%
	46 to 55 years	32.8%	13.6%	19.2%	23.2%
	56 years and above	24.1%	13.3%	16.1%	17.5%
Sex of the respondent	Male	35.7%	14.8%	21.1%	25.6%
	Female	30.8%	12.8%	20.1%	22.8%
Educational level of respondents	Illiterate	19.8%	9.9%	15.1%	13.5%
	Literate but no formal education	17.3%	5.9%	10.9%	9.9%
	Primary level up to 7th std.	30.5%	13.9%	20.0%	19.8%
	Secondary level (8th to 10th std)	31.8%	14.0%	20.8%	22.5%
	Matriculation completed	35.9%	14.7%	22.3%	27.1%
	Higher Secondary Completed	35.6%	13.8%	20.9%	27.2%
	Graduation completed	36.3%	13.4%	22.9%	31.8%
	Post-Graduation completed	46.3%	18.9%	24.2%	33.7%
	Others	30.8%	0.0%	23.1%	23.1%

A smaller proportion of the illiterate population in the program areas was exposed by any of the activities, as compared to literate population.

6.1 Effect of exposure on knowledge of Malaria and Dengue

In the stages of behaviour change, the first change to occur is the change in the awareness level of the people. The purpose of the YHM activities was to improve the level of knowledge related to Malaria and Dengue and specifically on how the Malaria or Dengue spread.

58% of the overall respondents reported correct knowledge, which was that Malaria and Dengue spread through mosquito bites. Among those who were exposed to any activity, almost 64% reported that they knew that mosquito bites could spread Malaria/Dengue. A similar positive exposure of the program activities can be seen separately for each activity in the table shown below listing the level of knowledge in both exposed and non-exposed groups.

When asked about where mosquitoes lay their eggs, the correct answer is “stagnant water” and it is a positive sign that majority of the respondents (almost 84%) know this information.

The most prominent and major symptom of the Malaria/Dengue is fever. Around half of the total respondents (52%) know that fever is a major symptom and it was found from the reported data that

only those who were exposed to the street play and had one-to-one interactions with program volunteers had positive knowledge of this fact. Overall exposure to any other activity did not show any such positive impact and a similar picture was found for exposure to pamphlets. This might be because the street play and rally were the activities where the information was reinforced and people exposed to these became more aware of the knowledge.

Table 4: Knowledge regarding Malaria and Dengue by exposure to IEC activities

Correct Knowledge regarding Malaria and Dengue	Any exposure to program activities	Exposure to street play	Exposure to Rally	Exposure to pamphlet
	Any exposure	Yes	Yes	Yes
Malaria and Dengue are spread through Mosquito	**63.7%**	**69.5%**	**65.3%**	**64.1%**
Mosquitoes lay their eggs in stagnant water	**87.5%**	**87.8%**	**87.1%**	**87.8%**
Symptoms of Malaria-Fever, chills, Body ache	50.4%	**58.4%**	**53.1%**	50.8%
Dengue mosquito Aedes bites at morning	19.2%	**21.7%**	**21.0%**	**20.8%**
Bed nets and Long sleeves used for personal protection against mosquitoes	42.0%	35.4%	39.4%	**43.1%**

The Dengue mosquito bites only in the morning time, but overall this knowledge is less among the respondents. Only one in every five respondents knows (only 19.2%) that Dengue occurs when the carrier mosquito bites in the morning.

6.2 Effect of exposure on attitude and perception regarding Malaria and Dengue

The study found that the overall perception and attitude towards Malaria and Dengue prevention was positive and a majority of the respondents have reported the same (as shown in the table below). The effect of the campaign activities also reflected in the respondents' perception about Malaria and Dengue being dangerous diseases. This perception can be seen as a positive influence among the respondents as the awareness and perceived threat of these dangerous diseases will lead them to act positively; manifesting behaviours or practices, which will prevent these diseases.

Table 5: Perception and attitude related to Malaria and Dengue by exposure to activities

Perception and attitude related to Malaria and Dengue	Any exposure to program activities	Exposure to street play	Exposure to Rally	Exposure to pamphlet
	Any exposure	Yes	Yes	Yes
Malaria and Dengue are dangerous disease	**96.2%**	**97.0%**	**96.8%**	**96.0%**
Respondents think Malaria and Dengue can be reduced by removing stagnant water from surroundings	**98.0%**	**98.3%**	**98.3%**	**97.8%**

Fogging is important to prevent Malaria and Dengue		77.6%	**80.4%**	**79.6%**	78.4%
Fogging should be done	**Indoor**	28.4%	31.8%	30.6%	29.4%
	Outdoor	70.3%	67.4%	68.3%	68.9%
Person should voluntary test for Malaria and Dengue		**99.1%**	98.3%	**99.4%**	**99.2%**

The perception that removing stagnant water can reduce the incidence of Malaria and Dengue, improved slightly among those who were exposed to the program activities. The perception that fogging done by MCGM (Municipal Corporation of Greater Mumbai) was an important method to prevent Malaria and Dengue was more prevalent among those who were exposed to the street play and rally activities. Most of the respondents felt that fogging should be done outdoors

The respondents felt that it was important to go for tests if they had fever – to confirm whether they had Malaria or Dengue. This positive attitude was found among most of the respondents (almost 99%). The percentage of this positive attitude was found to be higher in the group that was exposed to any one of the activities. The respondents who were exposed through the activities of the rally and pamphlets were also impacted positively and demonstrated same perception.

6.3 Effect of exposure on practices related to Malaria and Dengue

It was found from the survey data that most of the families (almost 98%) in the program areas store water in containers/drums, and it slightly higher for those who are exposed to the program activities. Differentials in practices regarding Malaria and Dengue by exposure to different program activities are shown in the table below.

Table 6: Practices to regarding Malaria and Dengue by exposure to activities

Practices to regarding Malaria and Dengue	Any exposure to program activities	Exposure to street play	Exposure to Rally	Exposure to pamphlet
	Any exposure	**Yes**	**Yes**	**Yes**
Have containers and drums at home	**98.4%**	**98.7%**	**98.7%**	**98.1%**
Covered with lid/cloth	97.9%	97.8%	97.6%	98.2%
Clean the water container Everyday	**36.8%**	**40.8%**	**38.6%**	**36.6%**
Use mosquito repellents All Out, Good night etc.) at home during sleep	**66.4%**	60.6%	**65.5%**	**68.6%**
Use bed net at home during sleep	**10.4%**	**8.3%**	**10.1%**	**10.4%**
Apply mosquito repellent cream (e.g. Odomos) on your skin at evening and night	**15.2%**	**16.4%**	**16.9%**	**15.5%**

It was found that the respondents have good practices related to water storage. If the respondents stored water in container/drums, then the majority kept the drums covered (98%). But there is no effect of the exposure to activities on this behaviour.

One of the correct practices related to storage of water is that the water container should be cleaned every day and if not, then at least once in a week. One in every three respondents practiced this and, if the respondent was exposed to the program activity, they were more inclined to clean the water container every day. This simply underlined the fact that the program exposure had a positive impact on this behaviour.

It was also found that preventive behaviour increased if the respondents were exposed to the program activities. Mosquito repellents were used more by those who were exposed to activities like street play, rally or pamphlets. A majority of the respondents reported not using any mosquito repellent cream (almost 89%) but there was a significant impact seen on the program exposure on using the mosquito repellent as shown in the table above.

The use of bed nets and other prevention methods of prevention were reported among those who were exposed to any one of the program activities like street play, rally and/or pamphlets. 10% of the respondents exposed to the activities reported using bed nets.

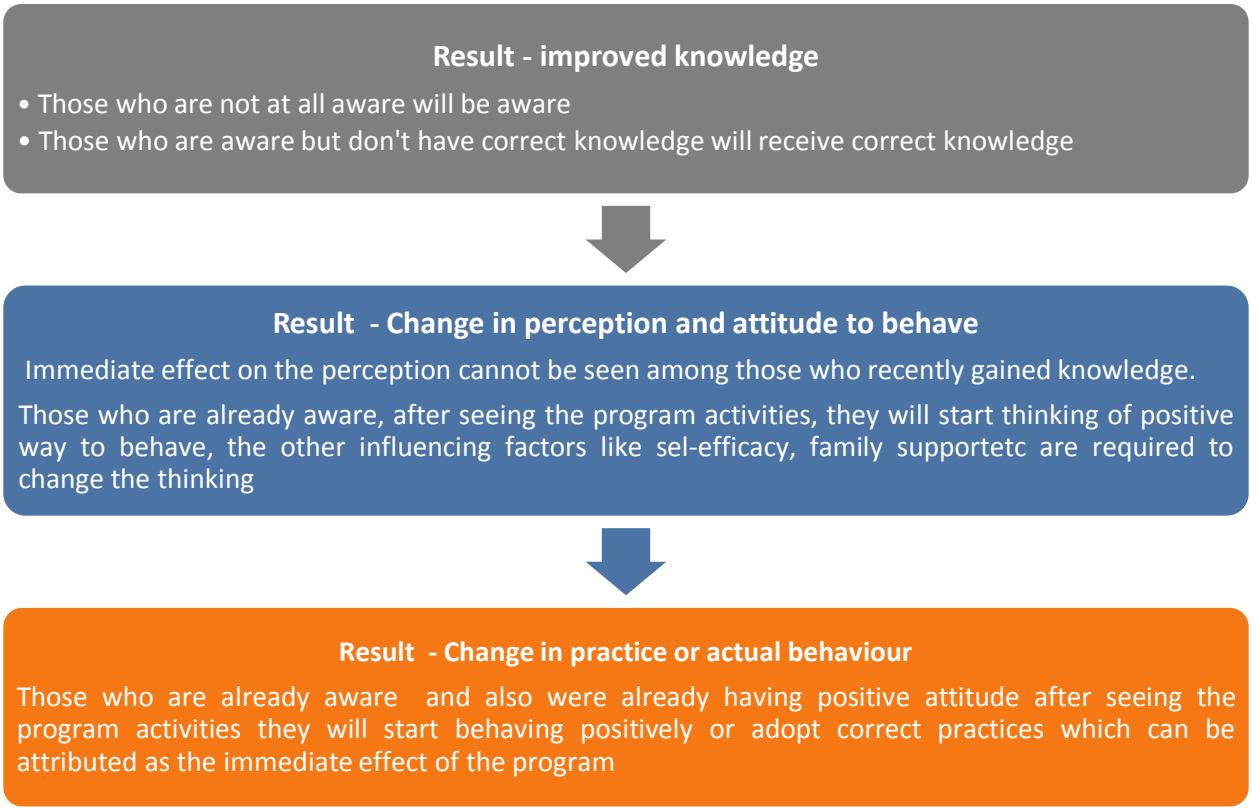
Key Highlights - 3

- 32.3% of the respondents were exposed to any program activities i.e. Street play, Pamphlet or Rally
- Among the respondents exposed to any program activity 13.4% were exposed to street play, 20% to rally and 24% to pamphlet
- The younger respondents, who are below 25 years are exposed to any program activity more than the older respondents (Above 50 years)
- Those who are exposed to program activity show improved knowledge related to transmission and symptoms of Malaria and Dengue. They were aware that stagnant water is a breeding site for mosquitoes. Mosquito repellents is used more by those who are exposed to activities, be it street play, or rally or pamphlets.
- Overall, it was found that preventive behaviour like cleaning the water container everyday or use of mosquito repellents have increased among the respondents exposed to program activities
- There is little significant impact of the program exposure on the attitude or perception level. This is probably because the perception level is already high among the respondents; so, to bring about a smaller change is a long term matter and is not visible in a short duration intervention.

Chapter 7 – Discussion and Conclusion

The main aim of this campaign was to change the knowledge, attitude and practices related to Malaria and Dengue, helping to prevent the spread of diseases. The graphical representation explains below the process of changes in behaviour due to awareness campaign activity or impact to be seen for a KAP program– (this is the diffusion theory and transition model of change in behavior is the cornerstone of KAP study).

Figure 4: Processes of Change in Behavior



The results show that there was significant positive impact of the program exposure on influencing the knowledge level. The study showed that respondents who were not aware of the correct knowledge benefitted from these activities. Although there is no impact on the knowledge of personal protection from mosquitoes, this may have been because the issue was not effectively raised in the communication messages. However, the street play and rally seemed to be the more effective methods of communicating messages to the audience

There were no such impact on the perception or attitude level of the respondents because it was already on higher side as reported from the survey data. However, there is a significant and positive impact or influence of program activities on positive behaviour. Still, the level of behaviour regarding prevention of Malaria and Dengue needs to be more focused, as use of bed net and mosquito repellent could still improve. Although a positive influence can be seen from program activities, since the program duration was less, only three months, more rounds of such programs may bring more positive changes in behavior.

The study recommends that detailed information should be compiled, out of which communication messages should be formulated and evaluated so that the community can benefit from comprehensive knowledge about Malaria and Dengue prevention and adopt corrective behaviour. It can be concluded that the YHM activities were helpful in bringing positive changes towards Malaria and Dengue prevention and there is a lot of scope for improvement in the implementation of such a program in the near future.

Chapter 8 – Recommendations

The following recommendations were arrived at after an in-depth analysis of the gaps identified in the KAP study of the YHM activities for Malaria and Dengue education and prevention. The aim of this chapter is to act as a guide for developing effective program strategies for maximum impact.

From a programmatic perspective, it is important to clearly demarcate the intervention areas and also have a sound rationale for the selection of the areas – in this case due to the respondents' vulnerability to Malaria and Dengue. As most of the general population in Mumbai shows vulnerability to these diseases, the choice of the intervention areas and their specific vulnerability need to be outlined early on.

Each location yields a different mid-media activity. Some locations show a good response to pamphlets and some to a street play. It is imperative that strategic locations should be identified in the intervention areas for conducting specific mid-media activities, for example street plays should be conducted in crowded junctions in the community, where there are more footfalls.

One important recommendation is to target women in house-to-house and one–to-one interventions, as they are influential in bringing about changes in behaviour and can be the lead in enforcing preventive behaviour for disease control.

Inter personal communicator (IPC) should be assigned the responsibility of engaging the respondents with one-to-one interactions. The interaction should be of a fixed duration, wherein the IPC not only provides concise and relevant information but also addresses any queries or doubts and tries to break down barriers the respondent may have towards preventive behaviour. The IPC can also use interactive visual aids like flipcharts to impart correct information of the diseases. This will enable the IPC to keep the respondents engaged and will help the respondents to understand the concepts in a simple way to aid recall.

The communication material should be designed after carefully sifting through detailed information and developing communication messages. The material should be such that the community will have the correct knowledge about Malaria and Dengue prevention and adopt preventive behaviour. The communication material should also address the gaps identified through the current study; like knowing all the symptoms of Malaria and Dengue apart from fever, knowing the importance of fogging both inside and outside the home; emphasis on different preventive methods like using bed nets and mosquito repellents and also seeking timely and correct treatment.

The respondents can be reached through innovative methods of communication and this will help the campaign not only gain scale but also increase impact. Innovation and thinking out of the box will help to look for new ways to reach the target audience, as some methods like street plays and rallies are also being overdone and risk audience fatigue.

There is need to brand the activity so that its impact can be clearly tracked. In locations where there are multiple stakeholders on the ground - like MCGM and other NGOs - it is imperative to differentiate between the impacts created by them.

The last recommendation is to ensure that every activity was at least done thrice in every location. Herbert E. Krugman, whose theory has been adopted and widely used in the advertising arena, said that by the third exposure the viewer already has curiosity, recognition and decision. This is now a common tenet in social marketing and is based on the effective frequency or the number of times a person must be exposed to a message before a response is made.

Annexure I – YHM Questionnaire

Schedule No ☐☐☐☐

YOUTH FOR HEALTHY MUMBAI IMPACT ASSESSMENT STUDY

IDENTIFICATION				
CITY – MUMBAI				
WARD NAME _____		Area _____		
RESPONDENT NAME _____ ADDRESS _____				
	DAY	MONTH	YEAR	
INTERVIEW DATE	☐☐	☐☐	☐☐☐☐	
NAME DATE	SPOT CHECK BY _____ _____	BACK CHECKED BY _____ _____		
_____ NAME OF INVESTIGATOR AND CODE ☐☐		_____ SIGNATURE OF INVESTIGATOR		
RESULT STATUS OF QUESTIONNAIRE		COMPLETE	1	
		INCOMPLETE	2	
		REFUSAL	3	

INFORMED CONSENT

My name is _____. I am from United Way Mumbai, a Non-Governmental Organization. We are carrying out a study to gauge the awareness among people about Malaria and Dengue. This study is to be carried out with 3500 households and is part of Youth for Healthy Mumbai campaign. This campaign was undertaken in 2015 for awareness generation on Malaria and Dengue with support from SD Welfare Trust and Municipal Corporation of Greater Mumbai.

We would like your cooperation and ask you to participate in an interview. I want to ask for your permission to include you in our study. No one will charge you any money to participate or pay you any money for participating in our study.

The interview will take about 15 minutes. I would like to assure that your participation is voluntary and, if any question makes you uncomfortable, you are not obligated to answer it. You can also stop the interview at any time. Whatever you report during the interview will be kept confidential. We will record your name on the cover sheet of interview schedule; it will not be recorded anywhere else. The sheet with your name will be kept confidential and only study staff will be able to access it.

Signature/Thumb impression of Respondent _____

SECTION I – BACKGROUND CHARACTERISTICS

Introduction – I would like to begin by asking questions on your background

Q. No	Question	Responses	Codes	Skips
1	What is your age? **Instructions** – To interview respondent between age group **18yrs to 60yrs**			
2	Sex of the Respondent	Male	1	
		Female	2	
3	What is the level of education you have attained?	Illiterate	1	
		Literate but no formal education	2	
		Primary level upto 7th std	3	
		Secondary level (8th to 10th std)	4	
		Matriculation Completed	5	
		Higher Secondary Completed	6	
		Graduation Completed	7	
		Post-Graduation completed	8	
		Others (specify)_____	77	

SECTION IIA FEVER HISTORY

Q.No	Question	Responses	Codes	Skips
11	Did you have any case of fever at home during last 9months?	Yes	1	
		No	2	→**Q13**
12	Which health facility did you take patient for the treatment?	Private health care provider	1	
		Municipal Health post	2	

SECTION IIB Knowledge of Malaria and Dengue

Q.No	Question	Responses	Codes	Skips
13	Malaria and Dengue are spread through? **Instructions – Single code only**	Air	1	
		Water	2	
		Mosquitoes	3	
		Don't know	88	
14	Where does mosquitoes lay their eggs? **Instructions - Single code only**	Stagnant water	1	
		Dry Soil	2	
		Tree Leaves	3	
		Don't know	88	
15	Which of these is a symptom of Malaria? **Instructions – Multiple responses possible**	Fever	1	
		Chills	2	
		Body Aches	3	
		All of the above	4	
16	Dengue mosquito (Aedes) bites at? **Instructions – Single code only**	Morning	1	
		Evening	2	
		Afternoon	3	
		Any time of the day	4	
17	Which of these items can be used for personal protection against mosquito bites? **Instructions – Multiple responses possible**	Long sleeved clothes	1	
		Bed nets	2	
		Both	3	
		None	4	

SECTION IIC: ATTITUDE TOWARDS MALARIA AND DENGUE

Q. No	Question	Responses	Codes	Skips
18	Do you think Malaria and Dengue are dangerous diseases?	Yes	1	
		No	2	
19	Do you think Malaria and Dengue can be reduced by removing stagnant water from surroundings?	Yes	1	
		No	2	
20	Do you think fogging done by MCGM is an important method to prevent Malaria and Dengue?	Yes	1	
		No	2	→Q21
20a	If yes, should fogging be done indoor or outdoor?	Indoor	1	
		Outdoor	2	
21	Do you think any person with fever should voluntarily test for Malaria and Dengue?	Yes	1	
		No	2	

SECTION IID : Practices for Malaria and Dengue prevention:

Q.No	Question	Responses	Codes	Skips
22	Do you have water containers/ drums at home?	Yes	1	
		No	2	→Q25
23	If yes, are they covered with a lid/ cloth?	Yes	1	
		No	2	
24	How often do you clean the water containers? **Instructions – Single code only**	Everyday	1	
		Once a week	2	
		Fortnightly	3	
		At least once a month	4	
		Once in every 2-3months	5	
		I never clean the drum/container	6	
25	Do you use mosquito repellents (e.g. All Out, Good night etc.) at home during sleep?	Yes	1	
		No	2	
26	Do you use a bed net at home during sleep?	Yes	1	
		No	2	
27	Do you apply mosquito repellent cream on your skin at evening and night	Yes	1	
		No	2	
28	What is your first action if you or your family member has fever? **Instructions – Single code only**	Take self- medication	1	
		Take rest at home	2	
		Consult a doctor	3	
		Make dietary changes	4	

SECTION III: EXPOSURE TO CAMPAIGN ACTIVITIES

Q. No	Question	Responses	Codes	Skips
31	Please tell me if you have seen **any street play** during last monsoon (enacted on the road) where the artist talked about the Malaria and Dengue prevention?	I have seen	1	
		I have not seen	2	
32	**Show Picture Card A – Street play** Please look at this picture of the street play where artist are talking about the Malaria and Dengue prevention?	I have seen	1	
		I have not seen	2	
33	Please tell me whether you have **seen a Rally** during last monsoon passing through your area where the participants gave slogans on Malaria and Dengue prevention?	I have seen	1	
		I have not seen	2	

34	**Show Picture Card B – Rally** Please look at this picture of the rally where the participants gave slogans on Malaria and Dengue prevention	I have seen	1	
		I have not seen	2	
35	Could you please tell me whether you have seen a **pamphlet which is distributed house to house** during last monsoon by college students that conveys information on Malaria and Dengue prevention	I have seen	1	
		I have not seen	2	
36	**Show Picture Card C – Pamphlet** Please look at this picture and tell me whether you have seen the pamphlet which conveys information on Malaria and Dengue prevention	I have seen	1	
		I have not seen	2	
37	Do you think the activity helped you understand more about Malaria and Dengue?	Yes	1	
		No	2	

Thank you

Annexure II - Details of program activities

YHM activities, September 2015

Ward Name	College name	Area	Number of drives	Method to conduct Activity	Duration of activity (in Hours)
E	Akbar Peerbhoy college	Gaurbhai Municipal Dispensary	3	Rally/One to One Interaction	6
E	Govt Law college	Nawab Tank HP	5	Rally/One to One Interaction	10
E	HR College	Tadwadi HP	4	Rally/One to One Interaction	8
E	Sophia college	Reay Road HP	4	Rally/One to One Interaction	8
F/S	Ambedkar College	F-South (Family Welfare)	5	Street Play	10
F/S	Guru Nanak college	MGM Hospital. Parel	5	Street Play	10
F/S	Khalsa college	Naigaon Health Post	5	Rally/One to One Interaction	10
G/S	Kirti college	BawanChawl, Worli	5	Rally/One to One Interaction	10
G/S	Nirmala Niketan college of Home Science	BDD chawl	5	Rally/One to One Interaction	10
K/E	Sathaye college	Nehru Road near airport	5	Rally/One to One Interaction	10
K/E	SmtKamla Mehta college	Squatters Health Post	5	Street Play	10
L	K J Somaiyya college	Qureshi Nagar	4	Rally/One to One Interaction	8
L	Mahatma Night Degree college	Bail Bazar	5	Rally/One to One Interaction	10
L	S K Somaiyya college	Near Tunga Hotel, Saki Naka	5	Street Play	10
L	Vivekanand Education Society	Nehru Nagar	5	Rally/One to One Interaction	10
S	Asmita College	Ambedkar Hospital, Tagore Nagar 7	5	Rally/One to One Interaction	10
S	Mulund college of commerce	Sonapur, ShriramPada, KhindiPada	4	Rally/One to One Interaction	8

S	Ramanand DAV College	TembiPada	2	Rally/One to One Interaction	4
S	Sandesh College		2		4
S	V G VazeKelkar college	SubhashNagar,Indira Nagar, Nahur station	4	Rally/One to One Interaction	8

Note:

- **Street play** - No interactions after street play. Only pamphlet distributed
- **During Rally -** Only pamphlet distribution, no one-to-one interaction
- **Door to Door interaction -** Distribution of pamphlets and interaction with people

Annexure III – Bibliography

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