Assessment of Community Perception for Rebranding ICT Based Adherence Technology 99Dots for TB

By

Ahana Choudhury

Dissertation submitted for the partial fulfillment of the

MBA Hospital and Health Management

Academic year, 2015-2017

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The Internship is in fulfillment of the course requirements.

I wish her all success in all her future endeavors.

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Public Health
And has successfully completed her Project on

ASSESSMENT OF COMMUNITY PERCEPTION FOR REBRANDING ICT BASED ADHERENCE TECHNOLOGY 99 DOTS FOR TB

From 1ST February 2017 to 12th May 2017

Organization: IMS HEALTH Information & Consulting Services India, Pvt. Ltd.

She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

We wish him/her all the best for future endeavors

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This is to certify that the dissertation titled ASSESSMENT OFCOMMUNITY PERCEPTION FOR REBRANDING ICT BASED ADHERENCE TECHNOLOGY 99 DOTS FOR TB and submitted by Ms Ahana Choudhury Enrollment No. IIHMR-U/01/2015-17/0248 under the supervision of Dr. Arindam Das for award of MBA in Hospital and Health of the University carried out during the period from1st February 2017 to 1st May 2017 embodies my original work and has not formed the basis for the award of any degree, diploma associate ship, fellowship, titles in this or any other institute or other similar institution of higher learning.

Ahana Choudhury

Signature

THE IIHMR UNIVERSITY, JAIPUR

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This is to certify that all ethical issues have been considered while collecting data for my dissertation titled "Assessment of community perception for rebranding ICT based adherence technology 99 DOTS for TB".

Ahana Choudhury

Signature of student

ABSTRACT

BACKGROUND: Tuberculosis is an infectious disease which is caused by Mycobacterium Tuberculosis bacteria. It is an airborne disease and is spread when a patient sneezes or coughs. The National Tuberculosis Program was started in 1960 which was revised in 1992 and renamed Revised National Tuberculosis Control Program (RNTCP) and the WHO recommended DOTS strategy was implemented in that program.There are many barriers to patient adherence for long term therapy for a disease like TB. ICT enabled technologies like 99DOTS, Medication Event Reminder Monitor (MERM) etcetera are revolutionizing patient adherence. 99DOTS technology allows and empowers the patient to take his/her own medicine in the comfort of their household and at the same time helps in monitoring the adherence by way of a phone call. The 99DOTS packs are divided into four separate categories/sleeved packs based on the weight band. According to a person's weight he/she has to take 2/3/4/5 pills per day and place a free call after having the specific number of tablets every day. Although the technology is known as 99DOTS, the product as a whole does not have any name as such. It has no brand identity of its own. As it is going to be rolled out in the public as well as private sector it needs to have a name that will resonate with the purpose that it is made for and be relatable to the community. 'DOTS' as a brand is largely associated with the public sector, so it would not be an appropriate choice when considering the private sector. Even in the public sector DOTS is associated with added travel expenditure, time lost (opportunity cost) in treatment etc. The brand name and tagline for the product should be cross-cutting and should be acceptable to both the sectors.

GENERAL OBEJECTIVE:To rebrand and repackage 99 DOTS as a procduct

SPECIFIC OBJECTIVES:

1. To find out potential brand names and taglines for the product
2. To assess community view on the pack design

METHODOLOGY:This exploratory study employs a participatory approach and seeks to find out the perceptions of the community (TB patients, Doctors, Pharmacists, District Tuberculosis Officer, Senior Treatment Supervisor, Tuberculosis Health Visitor, ASHAs, CBOs, Field Officers and Non-TB patients) in order to brand and repackage the product. IDIs and FGDs were conducted with these groups.

DATA ANALYSIS:Mixed methods technique was used to analyse the data obtained from the survey. Qualitative analysis was done using ATLAS Ti software and quantitative analysis was done using Excel.

RESULTS: The survey brought forth responses on suggestions to improve pack, name suggestions and tagline suggestions. Suggestions to improve the pack like- addition of user manual in local language, vertical pattern of dose intake, pictorial representation of number of pills to be taken on the pack, mention of the day of the week along with the dose number on the cover of the pill among many others have come from the community. Name suggestions like- 100% KOCHS, Lifeline tablets, Easy Pills, RIPE Kit and many others have come from the community along with taglines-Yakshma Sanjeevani khao, parivaar mein khushiyaan lao", " Pura course, surakshit zindagi", " Daily khao, hamesha ke liye thik ho jao", "Cure for Sure", "Pakka ilaaj ka pakka

vaada",“RCINOL on TB gone", “ Nayi raah zindagi ki aur", “Roz loge SEHAT toh acche rahoge behad", “Smart pills for smart cure",- Curatin- Jaldi Suraksha Behtar Suraksha, Chaar goli sehat ke liye, Swasth jeevan ke aur,“T3 khao fit ho jao" etcetera were given by the community.The name and tagline should possess the following four characteristics- it should be cross-cutting, identifiable, relatable and should preferably be in Hindi with a local language variant for the easy comprehension of common people.

KEYWORDS-TB, RNTCP,99 DOTS, MERM, ICT, rebrand, repackage, brand names, taglines, Tuberculosis Health Visitor, Senior Treatment Supervisor, TB Patients, Yakshma, KOCHS,RIPE, T3.

ACKNOWLEDGEMENT

It is a privilege for me to work in a prestigious organization like QuintilesIMS. The threemonths training period has been a learning period which provided me with n insight on the working of a health consultancy along with field experience exposing me to the ground realities. The success of this project required a lot of guidance and assistance from many people. I am thankful to all those who have helped me at every step of the project. I would like to express my gratitude to Mr. Lokesh Sharma for giving me this opportunity to do training in this organization. My sincere thanks to Mr. Nilesh Maheshwari for his support and motivation. I am very grateful to Anita Gupta for being my mentor and my project guide. They have been a source of inspiration and the completion of this project would not have been possible without their continuous encouragement and guidance. I am also thankful to the other members of the organization who have enriched me with information and knowledge and helped me at every step of the project. I'm grateful to my guide Dr. Arindam Das, and other departmental heads for their cooperation, support, and wholehearted encouragement. Their assistance enabled me to overcome the difficulties faced during this project.

Thank you

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Date16th May 2017

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She comes across as a committed, sincere & diligent person who has a strong drive and zeal for learning

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Training & Development **Zonal Head-Human Resources**

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Contents

ABBREVIATIONS

1. ART-Antiretroviral Therapy
2. ASHA-Accredited Social Health Activist
3. CBO-Community Based Officer
4. DOTS-Directly Observed Therapy Short course
5. DST-Drug Susceptibility Testing
6. E Health- Electronic Health
7. FO-Field Officer
8. FGD-Focus Group Discussion
9. FDC-Fixed Dose Combination
10. ICT-Integrated And Communication Technology
11. IDI-In-depth Interview
12. MERM-Medication Event Reminder Monitor
13. M Health-Mobile Health
14. RNTCP-Revised National Tuberculosis Control Program
15. SDG- Sustainable Development Goals
16. TB-Tuberculosis
17. TPP- Target Product Profile
18. VOT-Virtually Observed Therapy
19. WHO-World Health Organisation

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1. INTRODUCTION

1.1DISEASE PROFILE: Tuberculosis is a communicable disease caused and spread by the bacteria Mycobacterium Tuberculosis. It is an airborne disease which mostly spreads when an infected patient sneezes or coughs. There are two types of the disease (based on the organ of the body that it affects)- Pulmonary Tuberculosis and Extra Pulmonary Tuberculosis. Pulmonary TB affects the lungs while Extra pulmonary TB affects other organs of the body like- lymph nodes, pleura, bones and joints, genito-urinary tract, nervous system (meningitis), intestines etc. The burden of TB is startling in India. The TB incidence worldwide is 9.6 million out of which India accounts for 2.2 million cases .In 2015, TB was listed amongst one of the top ten causes of death worldwide. It ranked above HIV/AIDS as a leading cause of death from an infectious/communicable disease [1].

1.2 WORLD SCENARIO:

Global targets and milestones set forth for the reduction in the burden of TB for the period of 2016-2035 have been set as a part of Sustainable Development Goals (SDGs) and World Health Organization's End TB Strategy. The first milestone for the End TB Strategy for 2020 is 35 percent reduction in the absolute number of TB deaths and 20 percent reduction in the TB incidence rate as compared to the figures in 2015 (1). The vision of WHO's End TB Strategy is to have a "World Free Of TB"- zero deaths, disease and suffering due to TB. The goal is to "End the Global TB Epidemic". The indicators of the End TB Strategy are-

1. Percentage reduction in the absolute number of deaths occurring due to TB as compared to 2015 statistics.
2. Percentage reduction in TB incidence rate keeping 2015 as the baseline.
3. Percentage of TB affected households bearing catastrophic expenditure because of TB considering 2015 as the baseline.

There are three pillars and components of the End TB Strategy-

1. Integrated Patient centred approach and prevention
2. Bold policies and supportive systems
3. Intensified research and innovation

1.3SCENARIO IN INDIA:

The National Tuberculosis Program of India was started in 1962. It was revised in 1997 and was named Revised National Tuberculosis Control Program (RNTCP) that used the WHO recommended DOTS strategy. Nationwide coverage of DOTS was achieved in March 2006.From its inception to December 2016 more than 2 crore patients were registered for treatment and more than 35 lakh additional lives have been saved. In March 2016 a revision of the technical and operational guidelines of RNTCP was made[2].

The modifications made were as follows-

1. Daily regimen for treatment of TB
2. Use of Bedaquiline for treatment of drug resistant TB with Drug Susceptibility Testing (DST) guided treatment.
3. Information and Communication Technology (ICT) based adherence support
4. Post- Treatment Followup

In this study we will be focusing on daily regimen for the treatment of TB and ICT based adherence support in the treatment of TB[2] i.e more specifically on 99 DOTS .

Information And Communication Technology is a result of the two components of End TB strategy- integrated patient centred approach and intensified research and innovation.

RNTCP has adopted ICT enabled solutions for patient centric adherence support. 99DOTS is one of the ICT solutions that has come up [2].

99 DOTS is an innovation that tries to resolve the issue of adherence by using basic mobile phones and modified packaging for medication. The 99DOTS technology utilizes a custom made sleeve (envelope) into which each pack of medication is inserted and sealed. Once a patient takes out a medicine from the blister pack a number is revealed. The patient has to place a call on the number to report his dose intake. The call made is completely free even when roaming and even in cases where it is made from a landline number. The number sequence for each patient is unique so if the patient calls on the correct number the system can assess with high accuracy that the patient has

taken the medicine. The platform/system, empowers the staff with daily information of their patients' adherence and allows them to use differentiated care to counsel those patients who tend to not adhere to the treatment. Similarly patients are empowered to take their medication and receive immediate outreach the moment they start to waver in adherence[2].

1.4RATIONALE:

The government FDC pack coupled with the sleeve, does not have a name in itself. The health staff and others who are aware of the technology refer to it as 99DOTS which is primarily the technology solution for adherence monitoring. The product is going to be rolled out in private and public sector alike in India. Given the aversion of private sector to anything related to government, DOTS that is synonymous with government would not be appropriate, Moreover, even in the public sector DOTS is associated with a lot of unnecessary travel expenditure and wastage of time leading to poor patient adherence to the treatment. Therefore, there is a need to give the product a new identity by branding and repackaging it. The study will be conducted to elicit the views of the community on this particular product in order to brand and repackage it.

1.5AIM:

The aim of the study is to find out the views of the community on 99DOTS package sleeves and the drugs included with respect to creating a new brand name and tagline.

1.6GENERAL OBJECTIVE:

To rebrand and repackage the 99DOTS sleeves

1.7SPECIFIC OBJECTIVES:

1. To find out potential brand names and taglines for the product
2. To assess community view on the pack design

2. REVIEW OF LITERATURE

2.1Key facts

- Tuberculosis (TB) is one of the top 10 causes of death worldwide.
- In 2015, 10.4 million people fell ill with TB and 1.8 million died from the disease (including 0.4 million among people with HIV). Over 95% of TB deaths occur in low- and middle-income countries.
- Six countries account for 60% of the total, with India leading the count, followed by Indonesia, China, Nigeria, Pakistan and South Africa.
- In 2015, an estimated 1 million children became ill with TB and 170 000 children died of TB (excluding children with HIV).
- TB is a leading killer of HIV-positive people: in 2015, 35% of HIV deaths were due to TB.
- Globally in 2015, an estimated 480 000 people developed multidrug-resistant TB (MDR-TB).
- TB incidence has fallen by an average of 1.5% per year since 2000. This needs to accelerate to a 4–5% annual decline to reach the 2020 milestones of the *"End TB Strategy"*.
- An estimated 49 million lives were saved through TB diagnosis and treatment between 2000 and 2015.
- Ending the TB epidemic by 2030 is among the health targets of the newly adopted Sustainable Development Goals[3].

2.2 GENERAL OVERVIEW

Tuberculosis, is a communicable disease caused by Mycobacterium Tuberculosis bacteria. Tuberculosis can be categorized into two categories based on the part of the body that it affects. Pulmonary TB affects the lungs and Extra- Pulmonary TB affects other organs of the body like-lymph nodes, pleura, intestines etc.

2.3 TUBERCULOSIS AND DIGITAL HEALTH

Tuberculosis remains an urgent global public health threat and Information And Communication Technology (ICT) presents opportunities to address these challeneges on various fronts. Various innovative eHealth and mHealth projects have been initiated by the TB programs to improve TB treatment adherence and prevention [4].

The DOTS strategy, which was launched in the 1990s when the global TB emergency was declared included direct observation of treatment as one of its core components. The concerns around close regular support to patients remain ever as topical today, as increasing number of patients embark on TB treatment which at times lasts for two years or more[5]. Poor medication adherence is a significant barrier to realizing full benefits of long term therapy for a disease like TB. In many settings, TB patients areconstrained to self-administer their medication withlittle support from formal health care workers in thecourse of their long regimen.Aids to remind patients totake medication regularly have included appliances tomonitor the opening of pill boxes, which have a long history in the field of TB care [4].An evidence of ICT's success can be seen in the fact that the combination of SMS reminders and monitor-basedcounselling yielded an approximate 45% improvementin patient medication adherence[4].

Over time, a number of innovations have been proposed, designed, tested and implemented to minimizethe inconvenience and expense for patients to travel daily to and from clinics for treatment observation.One of the most recent and promising of these hasbeen live or recorded video conferencing via telephone[4].

Early work from Mexico and the United States employing mobile phones attests to the potential for video(or virtually) observed therapy (VOT) to save resources and improve engagement when used to observeTB treatment and support patients remotely. In theUnited Kingdom, a multi-centre clinical trial, in partnership with the Find & Treat service, is now providingpatients with free smartphones and data subscriptionto facilitate VOT. Two randomized controlled trials havenow started inthe Republic of Moldova and the UK toinvestigate the effectiveness of VOT for TB. It is likely that TB programmes in low- and middle-income countries will

increasingly consider VOT to improvecommunication between caregivers and patients asthe availability of broadband internet and affordablesmartphones increases.VOT subscribes to the principles of patient-centredcare, respecting the patient's autonomy and individualpreferences, and promoting a more holistic approachto the care of patients with multiple diseases or health risks. The intervention is expected to make savings forthe patients in time, cost and physical exertion associated with regular travel to health care facilities; it isalso likely to reduce stigma for patients visiting clinics or having a nurse coming to their homes every day[5]. VOT has the makings of a valuableaddition to the future package of approaches availablefor care. It also provides the possibility to explore synergies between different ways of helping TB patients,including others that are mobile-phone mediated (e.g.interaction with SMS communication and electronicmedication monitors) [4].

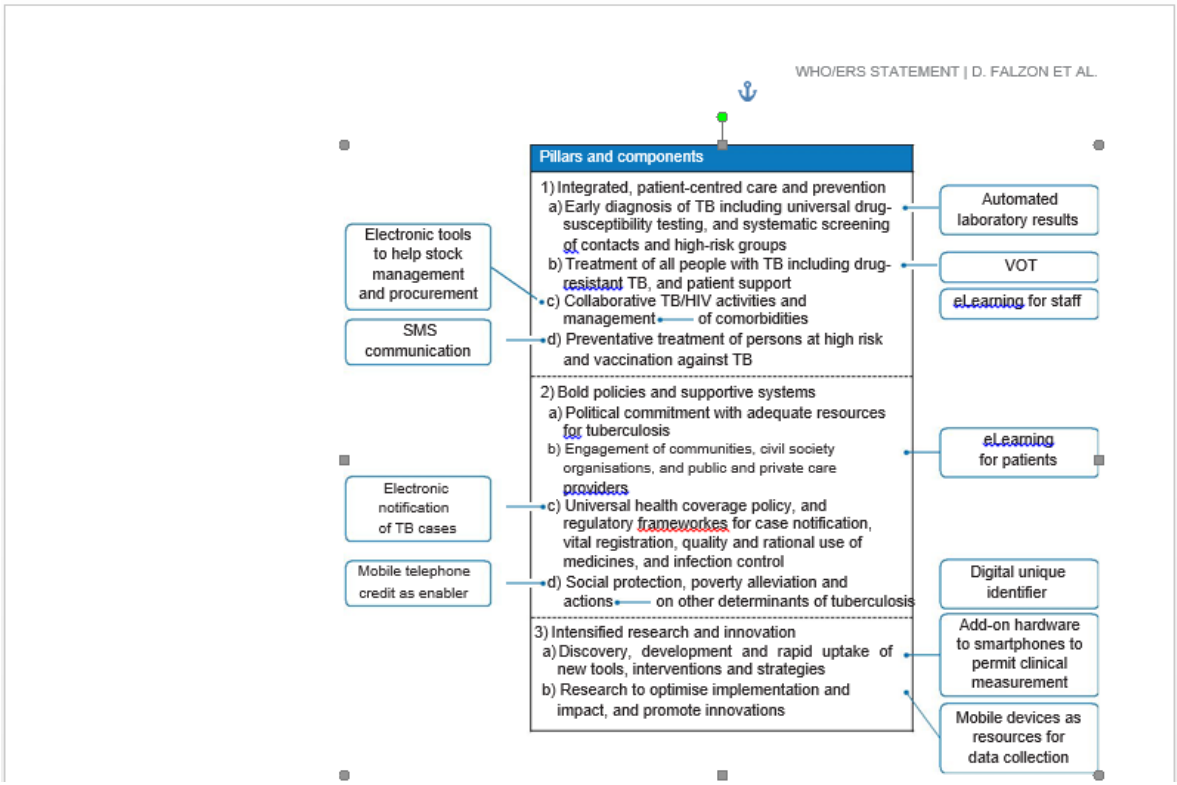


Fig2.1: Examples of common digital health products and their potential contribution to differentcomponents of the End TB Strategy. TB: tuberculosis; VOT: video (virtually) observed therapy; eLearning: electronic learning; SMS: Short Message Service.

The existing state of the art of information and communication technology (ICT) and its "next-generation" enhancements present opportunities to broaden the scale of action and to overcome barriers to programmatic interventions in TB, which appear

insurmountable even today. Fresh thinking on how to adopt, implement, market and sustainably support these technologies would, however, be needed.

The characteristics of the digital health products are described using TPPs. TPPs define the features of the desired solutions in sufficient detail and transparency to stimulate more interest from potential developers[8]. They are dynamic discussion tools that are revised in the development process. Where they apply to the creation of software, the TPP approach shares many characteristics with behaviour-driven development[9]. The TPP approach has recently been used to focus the views of multiple stakeholders and developers on the priority diagnostics required for TB [10, 11].

The choice of products and associated activities are premised upon the pressing needs and realities of TB programmes, upon existing evidence and knowledge about the effectiveness of certain digital health interventions, and the rapid advances in technologies of which potential users may be unaware. Firstly, there is a need for an articulated and step-wise approach to develop comprehensive digital health solutions to support the End TB Strategy and other associated policies that exist (e.g. eliminating TB in low-incidence settings [13,14,15], in particular, to limit fragmentation of efforts leading, for instance, to parallel systems, redundancy and waste of resources. The products and concepts defined by the TPPs were selected to complement each other in a given setting, which would be the desirable approach to implementation in contrast to the creation of independent standalones; they should thus be developed in parallel, ideally at comparable speeds towards completion [9]. Secondly, opportunities should be sought to integrate and seek synergies with promising ICT initiatives, both within healthcare and beyond, so as to increase the efficiency, scalability and sustainability of efforts.

A detailed TPP was developed for electronic medication monitors for use on patients on TB medication following positive findings from a trial of its use (Bruce V. Thomas, personal communication) [12]. This product is scheduled for large-scale roll out in high TB burden settings from 2016.

Table 2.1: Summary of target product profiles (TPPs) for the End TB Strategy (as of February 2016)

Functions	TPP
Patient care	Video treatment support (VOT) for TB patients via mobile telephones
	eHealth portal to improve TB and tobacco care
Surveillance and	Digital dashboard for TB indicators and epidemiological trends
Monitoring	Digital notification of TB cases
	Digital application for active TB drug safety monitoring
Programme management	Diagnostic device connectivity for TB
Elearning	Information resources platform for patients on TB and smoking cessation
	Web-based training for health professionals on TB and smoking cessation
	Clinical decision support systems for TB treatment and smoking cessation

According to a study conducted on Mobile health treatment support intervention for HIV and Tuberculosis in Mozambique, Africa, both the Health Care Workers and Patients found SMS system to be useful and reliable.Most highly rated positive effects were reducing the number of failures to collect medication and avoiding missing appointments. Patients' confidence in the system was high. Most perceived the system to improve communication between health-care provider and patient and assist in education and motivation. The automatic recognition of questions from patients and the provision of appropriate answers (a unique feature of this system) was especially appreciated. A major-ity would recommend the system to other patients or healthcare centres. Risks also were mentioned, mostly by HCW, of unintentional disclosure of health status in cases where patients use shared phones[6].

2.4 SCENARIO IN INDIA

India accounts for one fourth of the global TB burden.In 2015, an estimated 28 lakh cases occurred and 4.8lakh people died due to TB. The table below showsthe estimated figures for TB burden globally and forIndia reported in WHO Global TB Report for theyear 2015 (2).

TABLE 2.2: TB Burden In the world and in India

ESTIMATES OF TB BURDEN (2015)	GLOBAL	INDIA
Incidence TB Cases	104 lakh	28 lakh
Mortality of TB	14 lakh	4.8lakh
Incidence of HIV TB	11.7lakh	1.1lakh
Mortality of HIV TB	3.9 lakh	37000
MDR TB	4.8lakh	1.3lakh

[2]

The National Tuberculosis Programme of India(NTP) was initiated in 1962 which was revised in1997 as Revised National Tuberculosis ControlProgramme (RNTCP) that used WHO recommendedDOTS (Directly Observed Treatment, Short-course chemotherapy) strategy. Countrywide coveragewas achieved in March, 2006. Since inception tillDecember 2016, more than 2 crores patients wereinitiated on treatment and more than 35 lakhsadditional lives have been saved [2].

In March 2016, RNTCP revised its technical andoperational guidelines. The major additions reflectedin terms of strategies in treatment of TB are:

- Daily regimen for treatment of TB
- Use of Bedaquiline for treatment of drug resistant TB with Drug susceptibility testing
- (DST) guided treatmentICT based adherence support and Post-treatment followup [3].

RNTCP has started using ICT enabled solutions forpatient centric adherence support. One among thesuccessor is 99 DOTS. It was first used under theprogramme in 2015 in high-burden ART centers forTB-HIV co-infected patients along with use of dailyfixed-dose combination (FDC) medications. In 2016, RNTCP expanded this ICT based adherence systemto HIV-TB patients at all ART Centers in

India.99DOTS is an innovation that seeks to address issueof adherence by using basic mobile phones andaugmented packaging for medication[2].
As illustrated, the approach utilizes a custom envelopeinto which each pack of medication is inserted andsealed.When the patient takes out medication from theblister pack, the pills also break through perforatedflaps on the envelope. On the back side of each flapis a hidden number. Patients call these numbersusing their mobile phone as evidence that they haveconsumed medicine. Patients make a call every dayto the revealed toll-free number from any phone theyhave access to in order to report their adherence – thecall is completely free, even when roaming, or froma landline. The number sequence for any patient isunique, so when a patient calls the correct number, the platform can assess with high confidence if thepatient took medication that day.Once the 99DOTS platform gets this real-timeadherence information it can be used in multipleways. Program staff can login intowww.99dots.org from their computer / mobile (using Nikshayusername andpassword) to see the patient adherence(as seen in figure below). Customized SMS remindersare also sent to patients and government healthcarestaff (e.g TBHV, STS) to alert missed doses andtrigger additional counseling. Senior District / State/ Country level program staff can also get actionablereports for all patients[2].

2.5 BRANDING USING PARTICIPATORY APPROACH

Commercial companies invest considerable resource in naming and branding products. This typically involves consultation with a target audience for whom the product is targeted [5]. Involvement of target audience or ‘consumer involvement’ is common in the commercial world and is increasingly considered to be an integral part of good research and service planning in healthcare [5]. Patient and Public Involvement (PPI) in research, refers to the active inclusion of patients, carers, service users and stakeholders and maybe defined as research being carried out ‘with’ or ‘by’ members of the public than ‘to’, ‘about’ or ‘for’ them [5].

2.6REBRANDING OF 99 DOTS

99 DOTS is the name of the technology that maps the treatment adherence of TB patients. This is done by recording who has taken the dose and who has not via the phone call that they receive from the patient which in turn records the dose intake.

The medicines coupled with the sleeves do not have a brand identity of its own. The entire product (the medicines and the sleeves) needs to be given a brand identity so that it becomes synonymous with TB care. This study is participatory in nature. It is being conducted to capture the perceptions of the community on the pack design, name etc. The feedback received from the community members will help in giving the product a new brand identity.

3. RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN:

The study is qualitative in nature. It is an exploratory research and a cross-sectional study.

3.2 RESEARCH QUESTION:

What are the views of the community on the current 99DOTS package (sleeves and the drugs) with respect to creating a new brand name and tagline?

3.3RESEARCH PROCEDURES: In-depth interviews and Focus Group Discussions (FGD) were conducted on a pilot basis in Mumbai prior to the beginning of the study. The study was conducted in four cities- Patna, Delhi, Mumbai and Rajkot. In-depth interviews and Focus Group Discussions (FGDs) were conducted with doctors, pharmacists, TB patients, health staff (DTO, TBHV, and STS), Non-TB patients, Field Officers and ASHAs. Separate questionnaires were designed for every category of stakeholder though the themes captured in them were mostly the same. The interviews took approximately 35-40 minutes to complete while the focus group discussions took an hour to complete (on an average).

3.4 RESEARCH INSTRUMENTS: Open-ended questionnaires were used in the in-depth interviews and focus group discussions that were conducted. All the questionnaires covered four main themes, they are- noticeable features of the product, suggestions to improve the product design, name suggestions for the product and tagline suggestions for the product.

3.5SAMPLING FRAMEWORK:

3.5.1SAMPLING TECHNIQUE: Convenience sampling technique was used to select the respondents/participants for the study.

3.5.2SAMPLE POPULATION: The categories of stakeholders selected to be included in the study are- Doctors, Pharmacists, Health Staff (District Tuberculosis Officer, Tuberculosis Health Visitor, Senior Treatment Supervisor), TB patients on 99DOTS, TB patients not on 99DOTS, Non-TB patients, ASHAs and Field Officers. The participants of the study were selected in such a manner that the group consisted if a diverse group of individuals with respect to age, gender, education, socio-economic background etc.

3.5.3SAMPLE SIZE:Fifty-seven IDIs and eight FGDs were conducted for this study.

3.5.4STUDY SETTING: The study was conducted in four cities namely: Patna, Delhi, Mumbai, Rajkot

3.6DATA ANALYSIS

The data collected in the form of responses from the in-depth interviews and group discussions was analysed using the ATLAS Ti software. Thematic analysis was done usingthe software and results were presented in the form of text.

3.7ETHCAL CONSIDERATIONS: The following protocols was followed in order to abide by an ethical framework-

1. Purpose of collecting the data and its use was explained to the participants.
2. Transparency was maintained at all levels.
3. Confidentiality was maintained.
4. Written consent was taken from all the participants(except TB patients) in English, Hindi or Gujarati.
5. Verbal consent was taken from the TB patients.

4.RESULTS

4.1QUALITATIVE ANALYSIS: The qualitative analysis was done using the ATLAS Ti software. Thematic analysis is done. The responses obtained from the IDIs and FGDs were transcribed in English and then thematic analysis was done using the software. Codes are assigned to the themes. In this study seventeen codes have been identified and assigned. The seventeen codes in the alphabetical order are-

I. **Alternative way of medicine intake**
II. **Arrow symbol interpretation**
III. **Benefit of 99DOTS**
IV. **Description of pack technology**
V. **Pack improvement suggestions**
VI. **Language of instructions**
VII. **Description of instructions given on the pack**
VIII. **Significance of logo**
IX. **Name suggestions for the pack**
X. **Noticeable items on the pack**
XI. **Observable information on the pack**
XII. **Patient dosage instructions**
XIII. **Interpretation of phone symbol**
XIV. **Rationale behind the name of the pack**
XV. **Reason for not placing a call**
XVI. **Shortcomings detected in the pack**
XVII. **Tagline suggestions for the pack**

The responses recorded fall under these codes. The documents of each transcript is coded from D1 to D 68 and the quotes given in the analysis done have been extracted from these documents.

4.1.1a.QUALITATIVE FINDINGS

The study was conducted in four cities namely-Patna, Delhi, Mumbai, Rajkot. Focus group discussions and In-depth interviews were conducted with various stakeholders of the community, to know their perception and opinion on 99 DOTS technology for branding and repackaging of the product. This was done to give the product a name that holistically justifies it and represents the purpose it is designed to achieve. That is to increase the adherence rate among TB patients who are often seen to be defaulting prescribed treatment and who often tend to leave the treatment midway for varied reasons.

The analysis was done on ATLAS Ti software. Seventeen codes were identified, from the questionnaires, under which all the responses were covered.

ANALYSIS OF THE RESPONSES OF THE PHARMACISTS

The responses of the pharmacists in all the four locations covered, six particular themes- Suggestions to improve the pack design, language of instructions, name suggestion for the products, noticeable items on the product, rationale behind the name of the product, tagline suggestion for the product.

The suggestions made by pharmacists in order to improve the pack design were varied in nature. Broadly, according to them medicine name is to be explicitly mentioned on the pack along with the dosage. They also mentioned that the meal specifications- whether to have it before meal or after meal should clearly be mentioned on the pack itself. The manufacturing date and expiry date and the batch number should also be mentioned on the pack as per their opinion and it should be a monthly pack. The colour coding of each of the medicines should be different from the other and the day of the week on which the medicine is to be taken should be mentioned on the tablet. This way the patient will have the medicine on the designated day of the week. Also as per their opinion the colour of the medicine having the phone symbol should be distinctly different for it to be identified by the patient. As remarked by one of the pharmacists the packs are four different ones based on the weight band therefore, the colour of medicines on each pack should be different. Also the arrow mark should be on the pills and not just on the pack as pointed out by one of them. Serial numbers should be given on the medicine pack and not just on the sleeves. A pamphlet should be provided with the pack. The pharmacists also said that the language of the instructions should be Hindi or local language as majority of the population afflicted with TB would not be able to read English. The name suggestions given by them are – TB Kit, ATB Kit,4ATB Kit, Anti-TB, Rejufix, RIPE Kit,TB Tab pack, Combi Tab pack, Combi Pill Tab, TB pill Tab, TC Kit (Tuberculosis Control Kit). According to them TC kit sounds and seems to be the name of a general medicine, concealing the fact that it is a TB medicine so the name is suitable for the product. RIPE Kit also conceals the fact that the medicine is TB medicine as RIPE stands for Rifampicin, Isoniazid, Pyrazinamide, Ethambutol the main four drugs used to treat TB. Thus it can be safely concluded that the rationale offered for the two names mentioned above is to hide the identity of the disease thereby saving

the patient from the much dreaded social stigma. Taglines suggested for the product were-“ Bimaari bhagaana hai, Anti-TB dawaai khana hai”,Do goli zindagi bachaane ke liye,”Roj fix kariye hamesha khush rahiye”,”Do goli zindagi bachaane ke liye”, “Course kea age zindagi hai”,”T C Kit pura karo aur zindagi accha jiyo”, “Sab marz ki ek dawaa aur iss marz ki yahi dawaa”. The characteristic features of the product that the pharmacists noticed were- the logo, the phone symbol, salt information given on the product and the name of LUPIN on the pack.

ANALYSIS OF THE RESPONSES OF THE DOCTORS

The six major themes covered in the responses of the doctors are- Suggestions for improvement of the product, language used in writing instructions on the product, name suggestions for the product, rationale behind the suggestion, noticeable items on the product, and tagline suggestions for the product.

As per the opinion of the doctors, the size of the tablet should be decreased and the number of pills to be had per day should be lessened. The 6 month regimen should be changed to 9 month regimen for the convenience of the patients. The doctors in the various cities also felt that the tablet is a very unattractive form of medication. Capsule should be used in place of tablets to increase the attractiveness quotient of the medicine. The following quote illustrates the words of a doctor as said in the interview.

D9: “In my opinion the tablet’s appearance is not very attractive. Instead of tablet if the FDCs are in capsule form it would appeal more to the patient. This is primarily because of the fact that capsule gives a vitamin like appearance. The acceptability quotient of tablet is very low among patients, as this looks similar to DOTS tablet. The tablet looks like a Government supply medicine and thus the acceptability level is low. The getup should be improved. The capsule, if it replaces the tablet should be bright in colour and appearance.”

As per some doctors bioavailability tests should also be done to ensure the authenticity and efficacy of the medicine**. D39: “I think the cover should be thinner, this will make it easier for the patients to take out the medicine”** was another suggestion given by a doctor. The tablet size should be reduced was another common suggestion from the doctors. The doctors in general, voiced and supported the idea of having the instructions written in Hindi, the language of the state and English for the convenience of the patient who is a common man. In the words of a particular doctor-

D10: “The instructions ideally should be in English, Hindi and the local language of the state”.

The names suggested by the doctors were- ATT(Anti Tuberculosis Treatment), TRI-IN,TRI-CON, Kill TB, Self-Daily Regimen,100% KOCHS, KOCHS TB CURE,KOCHS RELIEF, KOCHS,TB CURE PILLS, KOCHS PILLS, Stop TB Pills. The rationale behind giving the names were also different and varied. In the

case of TRI-IN and TRI-CON, TRI stands for three pills (for the three pill weight band) and IN for intensive phase and CON for continuation phase. The name self-daily regimen indicates that the medicine has to be taken every day by oneself, the name is self-explanatory. The names that have the word KOCHS, have the same rationale working for them. In medical terms TB is known as KOCHS. However, common man is unaware of this term, so the fact that it is a TB medicine gets concealed and the patient can ask for the medicine without any hesitation at the pharmacy. KOCHS TB cure gives the message that TB will be cured by it and KOCHS TB relief gives the message that it will give relief to the patient suffering from TB. The doctors noticed particular features of the pack like- instructions, logo, salt information, LUPIN symbol and the phone symbol.

The taglines suggested for the product were-"TB na ilaaj nahin hai", "BeSafe", "Uplabhta abhi sunischit hai", " Get relief in the easiest way", "Fight before it starts", "Goli khao, TB bhagao" and "Good Health, pure health". The taglines suggested made use of both the languages-English and Hindi.

ANALYSIS OF RESPONSES OF HEALTH STAFF

The in-depth interviews conducted with the health staff- District Tuberculosis Officer (DTO), Senior Treatment Supervisor (STS), Tuberculosis Health Visitor (TBHV) brought forth responses which covered the following major thematic areas- Product Improvement Suggestions, type of language used in writing the instructions on the product, name suggestions for the product, rationale behind the names suggested, any additional information observed on the product, interpretation of phone symbol, tagline suggestion for the product.

According to the health staff the pictogram demonstrating the instructions should be bigger in size, currently it is too small to be noticed. To make it more effective a leaflet should be added which contains the instructions to have the medicine and the tablet should be circular in shape and in capsule form. In the words of the health staff-

D24: "In order to make the pack better, a leaflet should be added which would contain the instructions to have the medicine (dawaa khane ki nirdesh). The tablet should be in circular form. We should design the Fixed Dose Combination in capsule form rather than tablet. The three pill pack and the four pill pack have similar colour that should be changed".

In their opinion, the LUPIN company symbol is not required and can be done away with and a line should be mentioned stating that it is a government supply good quality medicine provided to TB patients for free. In their words-

D25: "Bharat Sarkaar ki taraf se TB ki mareezo ke liye uchcha quality ki dawaii muft mein"

According to one of the health staff, the front line health workers should administer the medicine to the patients as the patients may not always be able enough to administer it themselves and they should be given incentives for delivering this

service. As per their opinion the instructions should be bigger and placed in front of the pack for the convenience of the patients. The logo also should be big and attractive. The duration of the medication should be clearly mentioned on the pack. The number of tablets to be had should be pictorially represented on the pack for the ease of understanding of the patients.

D 17: "The picture of number of tablets that are to be taken should be there in the instructions, so that the patients are able to easily comprehend it".

As remarked by the health staff, the arrow line or ribbon line can be made more attractive by writing the program name on it. According to the health staff the expiry date should be visible on the pack which is currently not the case. Also there is a lack of consistency in the three pill and five pill pack where the pack ends and the patient has to take two or more pills from another pack to complete the course. In their words,

D43: "Expiry date is not visible. This window on the pack is for visualising expiry date but it is not visible on it. There is sometime confusion if number of pills is odd in number, when it is three pills or five pills. In case of three pills at the ninth day 27 pills are consumed by patient and one pill is remaining, so next time they have to consume another two pills. So they have to understand properly that they have to consume one pill from this pack and another two from different pack".

As per their opinion there can be one sleeved pack of medicines and the other packs can be non-sleeved. This way the patient will have one tablet from the sleeved pack and one from the non-sleeved pack. This way the cost of sleeving the packs will also be reduced as less number of packs have to be sleeved.

D 44: "I think to make it more convenient for the patients, when we are giving the packs, we should give one pack containing the phone symbol marked medicines and one without them. This way, when a patient is going to have the medicine, he will take one tablet from the phone symbol pack and the rest of the medicines from the other pack/packs. This way the number of sleeves required would also be less and it will be a very effective cost saving measure also. This will make the process easier for him as he would not get confused which number to call".

The tagline of the pack should be big and should be self-explanatory. The weight band should also be mentioned on the pack.

In their opinion the instructions should be written in Hindi or in the regional language of the state as English is not understood by all. Ideally, the instructions should be English, Hindi and in the local language of the state.

D17: "The instructions should be both in English and in Hindi or the language of the state concerned".

The names suggested for the product are as listed- TB Cure, 100% DOTS, Yakshma Sanjeevani,28 day TB drug, TB Sanjeevani, Yakshma Jeevan Rakshak, Ab sirf 2 ya 3 tablet, K Kit (KOCHS Kit), TB drug kit.

The rationale for each name is also different. Since the medicine helps in curing TB so the name TB Cure was thought of. The name 100% DOTS signifies the fact that

everyone wants full and maximum care and like DOTS even this medicine regimen will provide full care. In the case of Yakshma Sanjeevani, Yakshma is TB in hindi and Sanjeevani is a healing drug so Yakshma Sanjeevani in Hindi means TB healing drug. In the words of the health staff-

D16: "In Hindi TB is known as Yakshma and Sanjeevani means healing drug. So Yakshma Sanjeevani in Hindi would mean TB healing drug. The name '28 Day TB Drug' is self-explanatory. 'TB Sanjeevani' means TB healing drug. Lastly 'Yakshma Jeevan Rakshak' means Life saver drug for healing TB. All these names effectively explain the purpose of administering the medicine".

The name KOCHS KIT is like a tribute to Robert Kochs, the man who discovered TB.

As observed by the health staff the pictogram is too small in size and the instructions are in English. Features of the pack observed by the health staff is very aptly represented in the quote below:

D17: "The start symbol indicates where to start the medication from. The phone symbol on the specific medicines show that one has to place a call after taking that medicine. Once the call is placed a green signal gets illuminated in the call centre recording that the patient has taken the medicine".

According to them the phone symbol indicates that one has to place a call after having the medicine and one has to place a call only after having the medicine which is marked by the phone symbol. In their words:

D17: "The phone symbol on the specific medicines show that one has to place a call after taking that medicine".

Lastly the tagline suggestions made for the product are- "99DOTS khaiye hamesha khush rahiye", "TB ke baad zindagi","DOTS Apnayo,TB se mukti pao", "Yakshma Sanjeevani khao, parivaar mein khushiyaan lao", " Pura course, surashit zindagi", " Daily khao, hamesha ke liye thik ho jao", "Cure for Sure", "Pakka ilaaj ka pakka vaada".

ANALYSIS OF RESPONSES OF NON-TB PATIENTS

The Focus Group Discussions conducted with the non-TB patients as participants yielded responses which came under the following themes- Noticeable items on the pack, observable items on the pack, interpretation of arrow symbol, interpretation of phone symbol, pack technology description, remarks on the instructions of the pack, pack improvement suggestions, remarks on the language used to write the instructions, name suggested for the product, rationale behind the names suggested, tagline suggestions for the pack.

According to the Non-TB patients of the various cities, the things that they noticed on the pack include- the tablet size, the phone symbol given behind the pack, the

instructions are clearly given on the pack and the two phases are clearly differentiated by colour, one is red in colour and one is green in colour. The arrow, phone symbol, logo and the government warning (that it is not for sale) and LUPIN symbol was noticed by all. As per the opinion of the non-TB patients the arrow is given to show the correct pathway of taking the medicine. One has to start as indicated by arrow. The pathway of taking the medicines is indicated by the arrow. The arrow shows the starting point i.e. where to start the medicine from and how to take it regularly without missing doses. One has to start from the start symbol and take designated number of pills following the arrow. In their words,

D 37: "This arrow shows that how to take medicines, from where you should start it, and after taking medicines do call"

D 37: "Starting to end point"

D37: "There is written the word "continues" then they wrote "open next blister".

The non TB patients expressed their views on the phone symbol also. They said that they have to place a call once they have the first medicine, then again after having the designated number of pills.. According to them the phone symbol is there to check whether they have had the medicine or not. Also as expressed the missed call is given on the toll free number is only supposed to be done after having the daily dose. It was also pointed out that there is a phone number below the cover of the medicine.

As per the opinion of non-TB patients, the pack technology is clearly described i.e. one has to have the designated number of pills (as per his/her weight band) every morning and give a call on the toll free number revealed from the cover of one of the medicines.

According to the non TB patients, the instructions say that one has to take the designated number of pills every morning with one glass of water and give a call on the toll free number.

The non-TB patients noticed the pictogram containing the instructions, they also noticed the fact that the product was supplied by the central government.

The improvements suggested by the non-TB patients in order to make the product better were as follows- they advised on reducing the size of the tablet, the instructions to be written in Hindi or the regional language for the convenience of the patients. In their opinion the tablets should be colour coded differently preferably in red and blue. A manual in Hindi or the local language should be an addition to the product. In their words,

D 37: "For illiterate people you should give manual with photos

All things should be showed in symbolic way, however anybody can understand.

Same road map should be kept at front side of the pack also, it must be at front, when u remove tablet, after that there is nothing to understand.

Blister should be stickled at the backside of the tablet and back side of the every tablet there should be written the days like first day, second day in numbers, two tablet should be removable together

like Cipla company's medicines

We can give the numbers also to this tablet like 1, 2, 3, 4."

According to them the tablet size should be made smaller. They also said that it would be better if the pattern or direction of having the medicine would be vertical and not horizontal.

The names suggested by the non TB patients are listed as follows- TB Secure, TB Secure Parivaar, Victory Plus, RCINOL (a combination of two drugs RCINEX and Ethambutol),SEHAT, Lifeline Tablet, Medicine Purse, Taksh Pills, Acchi Goli, Zindagi Pills, Jaadu ki dawaai, Smart Pills, Relief Pills, My DOTS, Life Pills.

The reasons for giving these names are also different. RCINOL is a combination of RCINEX and Ethambutol (two drugs used for treating TB) so this name is unique as it is a combination of the two drugs. Another name SEHAT is given with the expectation that the medicine is going to make the person healthy.

The taglines suggested for the product were- "TB Secure for long life", "Secure your life", "2 pills for life", "Buy for TB", "Buy for Health", "Do goli zindagi ki", "RCINOL on TB gone", " Nayi raah zindagi ki aur", "Roz loge SEHAT toh acche rahoge behad", "Ek khaoge TB du rho jaega", "Din mein chaar khao, aur TB ko bhagao", "Medicine pack khao, TB se chutkara pao", " Goli khayenge, Bharat desh ko bachayenge", " Jadu lao,TB bhagao", "Smart pills for smart cure".

ANALYSIS OF RESPONSES OF PATIENTS ON 99DOTS

The in-depth interviews conducted with patients on 99DOTS. The responses recorded largely covered the following themes- Alternative way of having medicine, interpretation of arrow symbol, benefit of 99DOTS, product improvement suggestions, language in which instructions are written in, instructions written on the pack, name suggestion for the product, noticeable items on the pack, patient dosage instructions, interpretation of phone symbol, reason for not calling, tagline suggestions for the product.

As per the opinion of 99DOTS patients, having the medicine in a vertical pattern is preferable for them as compared to horizontal pattern.

In their words-

D33: "I want to do from up to down, in vertical pattern"

The arrow symbol was also focused on wherein, the patients said that they were instructed by the doctor to have the medicine following the arrow. It shows the pathway of having the medicine.

D34: "Take medicine according to arrow and do call".

Responses were also recorded on the benefits that 99DOTS offers. They observed that this new regimen is time saving, as they do not have to go to the health centres to take their medicine they can have it in the comfort of their home. Also it was seen that they considered the medicine to be of good quality because it is a government supply medicine. Some also felt that since their dose intake is being recorded and adherence mapped that itself is very beneficial both for the provider and for the patient and also for the whole program. Reminders when doses are missed was also considered to be a beneficial side of the product.

There were a lot of suggestions given with regard to improving the product. One of the suggestions made was to reduce the tablet size and increase the size of the font in which the instructions and other things are written on the product. Remarks were also made on the shape of the tablet, they wanted the tablet to be circular in shape and the sleeves to be smaller in size. The pattern of having the medicine should be vertical rather than horizontal. According to them, the pictogram containing the instructions should be bigger in size to make it clearer. There should be only one fixed number on which one has to place a call instead of multiple numbers. The reason for this is-

D33: "I think they should fix only one number to call, because if there is one fixed number, then we can save it and call. If somebody has any eye problem they also can call on saved number".

Along with this a manual should be provided with pictorial information for easy interpretation by patients. Dietary information should also be provided in the product. Name of the particular day of the week on which one has to take the medicine should be written on the cover of that particular tablet.

On the subject of language used on the pack, the patients said that all the information provided on the pack should be written in Hindi. They also said that the instructions should be pictorially represented for easy comprehension of the patient.

The instruction on the pack was very easily understood and comprehended by the patients.

D33: "Its written on this pack, take two pills, have it at morning, then do call"

The names suggested by the patients are- Curatin, Sehat, Sudhar,Life Pill, Majbooti ki dawai, Swasth ki dawai, Khushi ki goli, Sehat ki Goli, Smile Pill, Meri dawaai, Pragati Pills,Pro Health, Power Pills, Shakti ki Goli.

The features of the pack noticed by them were- Number of pills to be had per day, the DOTS logo, Lupin symbol, central government supply, the pathway of having medicines indicated by the arrow.

The patients also said that the patient dosage instructions should be clearly given on the pack i.e. food to be had before or after the consumption of medicine and all dietary information should be specified on the pack.

For the phone symbol, the patients said that, they have to place a call when they have the phone symbol marked medicine.

Only one reason was cited for not calling i.e. not having sufficient balance in phone.

D32: "Yes, I did not call due to insufficient balance in my phone".

The tagline suggestions given by the patients are- Curatin- Jaldi Suraksha Behtar Suraksha, Chaar goli sehat ke liye, Swasth jeevan ke aur, TB se suraksha, Jagrook raho,swasth raho, taakat ki goli, hamare ke liye.

ANALYSIS OF RESPONSES OF TB PATIENTS NOT ON 99DOTS (PRIVATE SECTOR)

The in-depth interviews conducted with the TB patients not on 99 DOTS Private sector captured a variety of responses encompassing the following themes- Interpretation of arrow symbol, benefits of 99DOTS,product improvement suggestions, language used on the product, instructions written on the pack, significance of the logo, name suggestions for the product, noticeable items on the product, observable information on the pack, interpretation of the phone symbol, rationale behind the name of the pack, shortcomings of the pack, tagline suggestions for the pack.

The patients said that the arrow symbol indicates the way or direction one has to follow for taking the medicine. They said that the arrow showed the correct pathway of taking the medicine. The arrow indicates the pattern of taking medicine.

The patients also spoke about the benefits of 99DOTS. They said that the patient's adherence to the medicine will indicate the cure rate and the health providers will also get to know about it. It is also beneficial because if one misses a dose they will be called and given reminders and if the patient has queries even he/she can ask them. Also it is beneficial because it can track the dropouts and defaulters effectively.

The patients also gave suggestions to improve the pack. First of all they were of the view that the tablet size should be reduced. They also said that the size of the font should be increased. They also said that dose 1 dose 2 etcetera should be written on each tablet along with the date. The tablets are placed in a diagonal fashion on the pack. Instead of this they should be placed in a straight pattern on the pack. According to the patients, the size of the logo should be increased to make it more visible.

D7: "The instructions should be bigger in size or else it seems to be a part of the packing. Dose one dose two etcshould be written on every pill along with the date. This would make it more convenient for the patient. The medicines are placed in a diagonal fashion in the pack. Instead of that the medicines should be placed in a

straight pattern. Instructions should be in Hindi as most people understand Hindi. Hindi would be preferred by most of the people".

On the subject of instructions of language, the patients stated that the instructions should be in English and in Hindi.

D5:"English and Hindi both language should be used on the pack to make it easier for the masses".

It was also observed that, the patients interpreted the instructions correctly as given on the pack.

D47: "One is for Waking up in the morning. Second is to take pills. Then take the pills with the glass of water. Fourth is to call the agency".

The patients also commented on the logo given on the pack.

D7: "DOTS regimen is synonymous with TB program and the DOTS logo is famous so it is recognizable".

The names suggested by the patients for the product are- Medicine for cough, Daily dose, T2,T3,T4,T5, TB ki dawaa, TB Care, TB Dose and R.I.P.E.

The rationale behind the names was also given by the patients. The name daily dose was thought of so that patients never forget to take their medicine. For T2,T3,T4,T5 T stands for Tuberculosis and 2/3/4/5 stands for the number of pills one has to take per day depending on his/her weight category. According to the words of the patient,

D4: "T stands for Tuberculosis, 2/3/4/5 for taking 2 pills, 3 pills, 4 pills and 5 pills respectively. In this way people will not get to know that the medicine is for TB yet serve the purpose, plus the name is attractive and will appeal to people".

The name TB Care was thought of considering the fact that we all need to take care of ourselves and protect ourselves from TB. The name R.I.P.E. rather the acronym stands for Rifampicin, Isoniazid,Pyrazinamide, Ethambutol the four main front line drugs used to treat Tuberculosis. As per the words of the patient,

D8: "R.I.P.E stands for Rifampicin, Isoniazid, Pyrazinamide and Ethambutol the four main drugs used to cure TB. These are also the four constituents of this medicine. This name will not reveal directly that the medicine is for TB yet will hold significance as it has the initials of the four main TB drugs. This way a TB patient who knows how to read and write will understand but others would not. The stigma surrounding TB makes it difficult for TB patients to actually go and ask for the medicine in which it is explicitly expressed that it is a TB medicine. This name will be helpful for TB patients"

The shortcomings of the product as pointed out by the patients are- the product is not waterproof, it should be waterproof, and also the patients may make false calls but not have medicine. This is a major shortcoming which needs to be looked into.

The taglines suggested were- “Everyday only three”, “Relief from cough”, “Easily Cure”, “T3 khao fit ho jao”, “TB ki dawaa khakar TB stip kijiye”, “TB dose khaaiyein, bimaari door bhagaiyein”, “Dawaa lein, surakshit rahein”, “R..I.P.E dawaa lijiye or TB ko door bhagaiyein”.

The features of the pack that were noticed and observed by the patients were- the pictogram containing the instructions, the medicines were arranged in packs as per the pre decided weight band, the phone symbol containing the hidden phone number, the logo of LUPIN and DOTS, the pattern of taking the medicine, the word Anti-TB. In the words of the patient,

D5: “Even though the phone symbol is given the number is not visible on the pack. It is quite clear from the pack itself that we have to start the medication from where the arrow starts and ends where it ends. We have to call on the number which is probably inside the flap of the pill which has the phone symbol. The instructions clearly state that one has to take 2 pills every morning with one glass of water and call on the number given”.

The other things that were noticed include the fact that the product is not for sale, the medicine is a scheduled drug and the product is a central government product i.e. supplied by the central government.

According to the patients, the phone symbol is given so that one places a call after having the first medicine, it is there on the medicines which have a hidden number in them. As per the patients’ opinion one has to place a call after having the medicines. In their words,

D6: “The phone symbol given is primarily to indicate that a call needs to be placed once that specific medicine has been consumed”.

D7: “The phone symbol is to indicate that call has to be placed once that specific medicine is taken. It is there to maintain record of medicine intake and map adherence of the patient to the daily treatment regimen”.

ANALYSIS OF RESPONSES OF TB PATIENTS NOT ON 99DOTS (PUBLIC SECTOR)

In-depth interviews were conducted with public sector TB patients not on 99DOTS in Delhi and Rajkot. The following themes emerged from the responses to the questions asked in the interview-Interpretation of arrow symbol, benefit of 99DOTS, product improvement suggestions, language in which instructions are written, significance of the logo, name suggestions for the product, noticeable and observable features of the product, interpretation of the phone symbol, shortcomings of the product, tagline suggestion for the product.

According to the patients, the arrow symbol shows where to start taking the medicines from and how many tablets to take per day. It also indicates the fact that one has to give a call after having the tablets, as indicated by the arrow. The arrow indicates the beginning and end point of the product. It marks the pathway of having the medicine. The arrow also indicates which medicine to have next.

On the topic of benefits of the product they were of the opinion that even if they forget to take the medicine they will be reminded to take the medicine and that, according to them is a benefit. They also felt that with the introduction of the daily regimen medicine, their time will be saved as they can have the medicine in the comfort of their homes, the patients also felt that with the introduction of this product adherence of the patients will be mapped effectively as they will be able to keep a count of who is having medicine and who is defaulting. In their own words,

D21: "Time will be saved. Patients will not have to come to the health centre to take their medicine thrice a week. Record will be maintained at the centre".

They also gave suggestions to improve the pack. They advised to make the pill small in size so that the patient is able to swallow it easily. Also as per their opinion, the toll free number on which the patient has to place the call should also be a one constant number so that they can save it and call whenever they take their dose. According to them the day of the week on which the particular medicine is supposed to be had should be clearly mentioned on the cover of the tablet. They were also of the opinion that a manual of instructions written in local language should be provided with the product. They also commented on the pattern of taking the medicine, they felt that the medicines should be had in a vertical fashion and not in a horizontal manner, this will be more convenient for them. The font size should be increased to make the instructions visible to all. The tablets should be of a different colour i.e. white or green not red. Lastly, the toll free number should be written on the instructions clearly and not hidden beneath the flap of the medicine as per the opinion of the patients.

The patients were of the opinion that the instructions should be given both in English and in Hindi and the instructions should be placed at the bottom of the pack.

D18:"Instructions should also be printed in Hindi and placed at the bottom of the pack".

Regarding the logo, the patients felt that the logo was indicative of the fact that the medicine is a TB medicine.

The names suggested for the product are-Apni Zindagi, Meri Goli, Laal Goli,Frotin, DOTS DROP, Swasth Seva.

The features of the pack that were noticed and observed by the patients are- the pictogram containing the instructions, the phone symbol, logo, RNTCP symbol, number of pills to be taken per day, names of salts constituting the medicine, the start symbol, the arrow mark, LUPIN symbol and the number of tablets in the pack.

Regarding the phone symbol the patients were of the opinion that a call has to be made after having the medicine on the number given beneath the flap of the medicine. In their words,

D22: "The phone symbol is for connecting. It also shows that one has to have medicines on all days, but place a call only on the days on which, one has the medicine which specifically has the phone symbol on it".

The shortcoming pointed out by the patients was that one may make false calls but not have the medicine making it a false positive case. In a situation where this happens one would not be able to monitor the adherence of the patients.

D19: "The shortcoming of the pack is that, a patient might make false calls on the number without having medicine. This would absolutely defeat the purpose of the pack".

The taglines suggested were- "Zindagi ki suraksha ke liye","Call for India, to free from TB", "DOTS ko apnaye, khushal zindagi banaye".

4.1.2 QUANTITATIVE ANALYSIS

Quantitative analysis was done using Microsoft excel. The different responses were given numeric coding and graphs and tables were made based on the codes. The broad themes covered were- pack improvement suggestions, noticeable items on the pack, name suggestions for the pack, tagline suggestions for the pack. The quantitative analysis was especially done of the interviews of doctors, pharmacists and TB patients and the focus group discussions of the non-TB patients, CBOs, Field Officers and ASHAs.

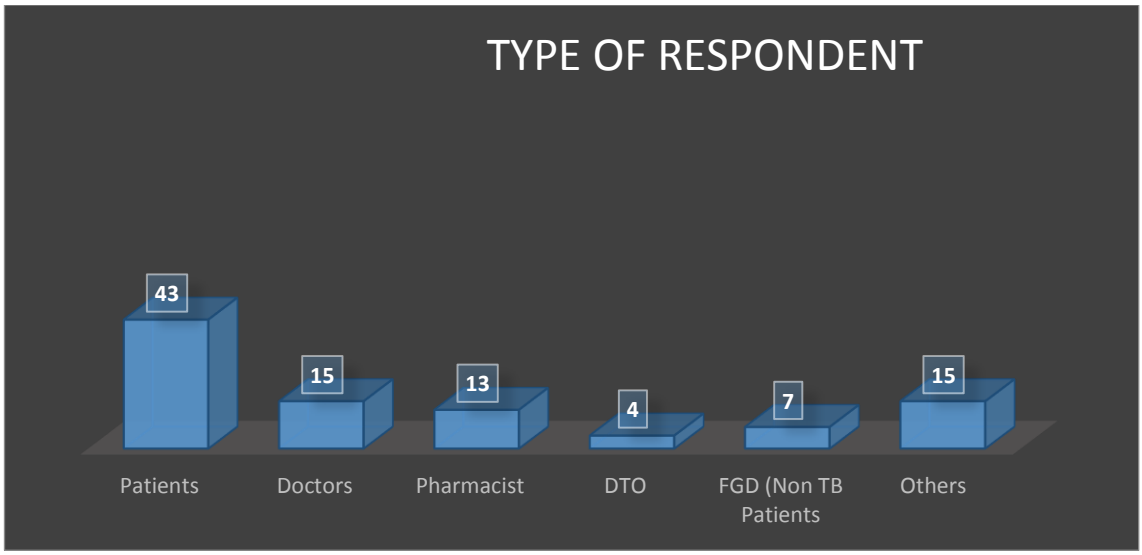


Fig 4.1: Type of Respondents

The graph shows the percentages of each category of respondents who participated in the study-patients,doctors,pharmacists,DTO, Non-TB Patients, others.

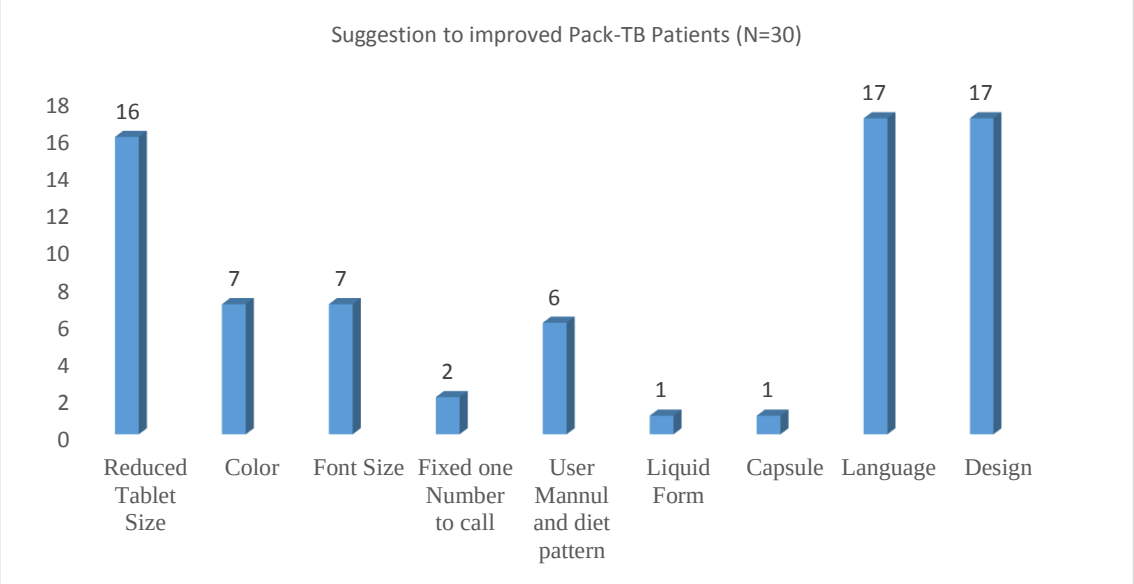


Fig 4.2: Suggestions for pack improvement (TB patients)

From the graph we can conclude that, the TB patients were of the opinion that the pack could be improved in several ways. According to them the ways in which the pack could be improved are- tablet size reduction, colour change of the pack, increase in font size of the instructions, one fixed number to place a call, user manual to be provided, the medicine to be in liquid form, the medicine to be in capsule form, language of instructions to be in Hindi or local language and vertical pattern to be followed for having the medicine.

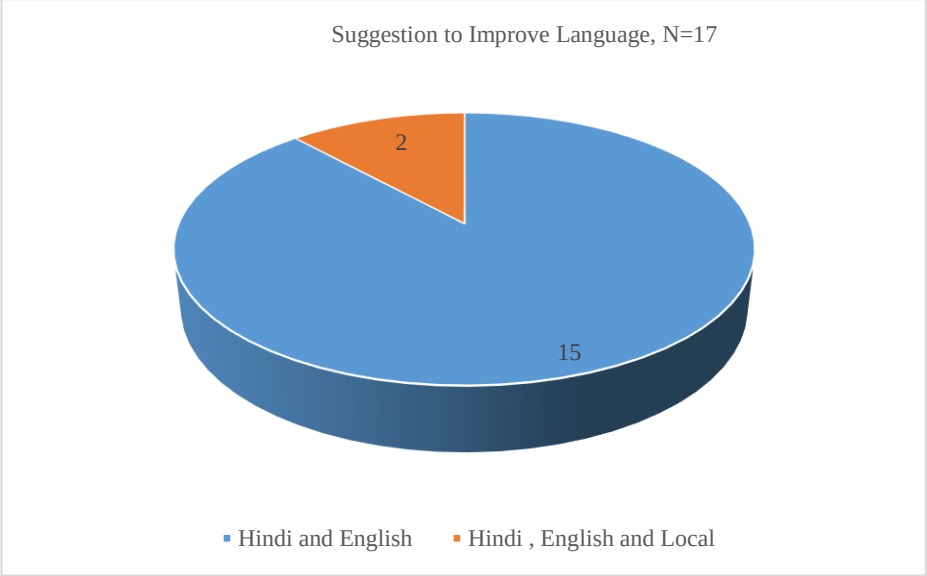


Fig 4.3: Suggestion to improve language of instructions (TB patients)

Out of all the TB patients 17 of them were of the opinion that the language of the instructions should be modified. 2 were of the opinion that the instructions should be written in Hindi, English and local language and 15 percent patients were of the opinion that the instructions should be written in English and Hindi.

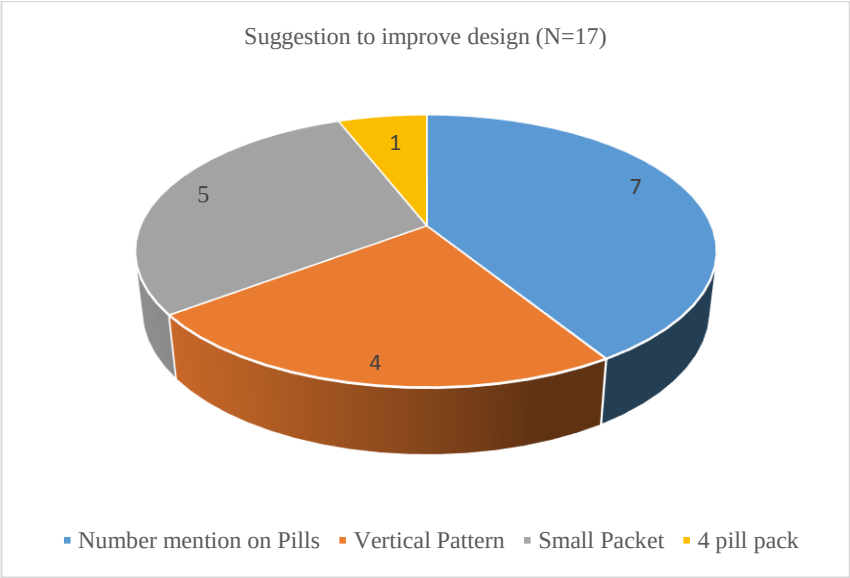


Fig 4.4: Suggestions to improve pack design (TB patients)

The TB patients also gave suggestions to improve the pack design. 17 patients gave suggestions. The patients said that the medicines should be taken in a vertical pattern not horizontal pattern, the pack should be small in size, it should be a two/three/four/five pill pack i.e. according to the number of medicines one has to take per day.

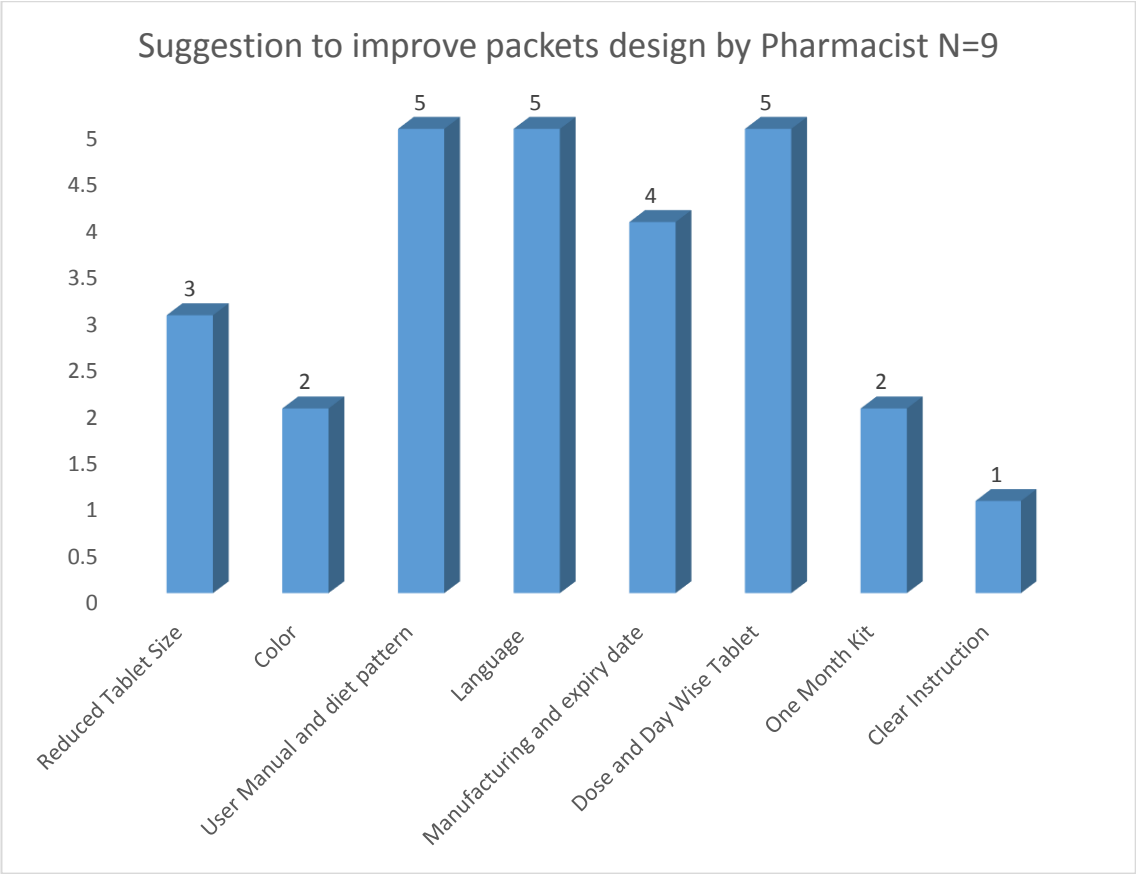


Fig 4.5: Suggestion to improve pack design(Pharmacists)

The pharmacists also gave suggestions to make the pack design better. The suggestions given by them were- to reduce the size of the tablet, change the colour of the medicine, provide a user manual with the pack, modify the language of instructions on the pack, mention the expiry date and manufacturing date on the pack, mention dose number and day of the week on which the tablet is to be had on the cover of the tablet and clear instructions to be written on the pack.

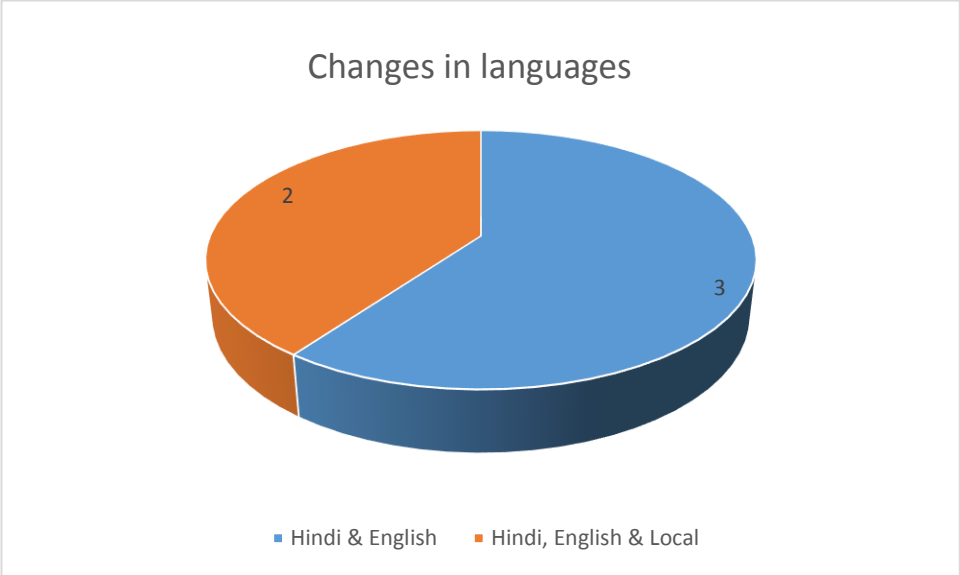


Fig 4.6: Suggestions to improve language (Pharmacists)

Two of the pharmacists felt that the language in which the instructions are written in should be both in English and in Hindi. Three of the pharmacists were of the opinion that the instructions should be in English, Hindi and the local language of the state.

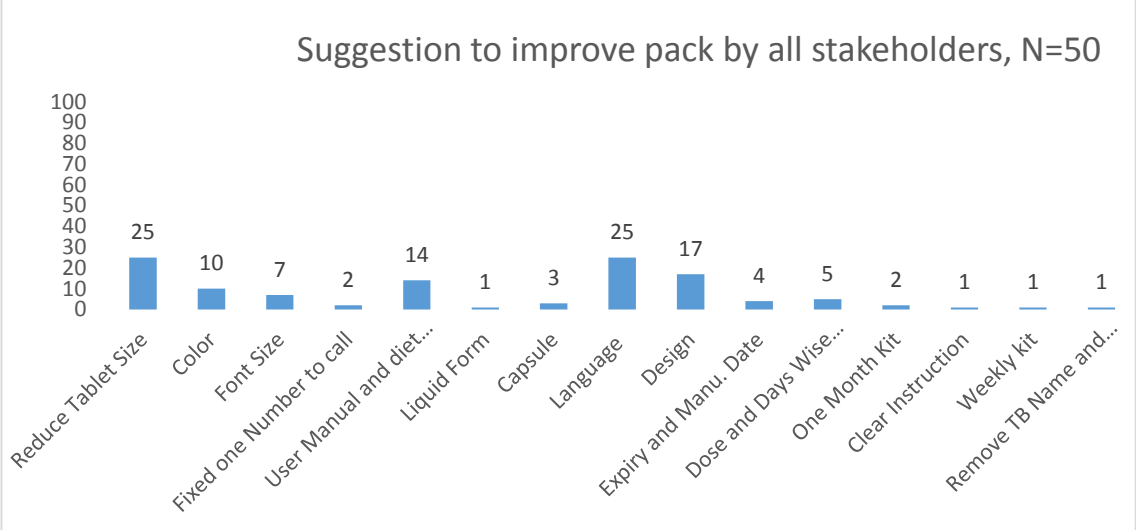


Fig 4.7: Suggestions to improve pack (all stakeholders)

Suggestions to improve pack were given by all the stakeholders interviewed. The suggestions included- reduction in the size of the tablet, change in colour of the tablet, increase in the font size of the instructions, one constant number in which one can place a call, user manual for the patients, medicine in liquid form, medicine in capsule form, language of the instructions should be written in Hindi or in the local language of the

state, design of the pack should be changed, vertical pattern of having medicine, the manufacturing and expiry date should be mentioned and visible on the pack, dose number and day of the week on which the dose needs to be had should be specified on the cover of the tablet, one month kit should be provided to the patient, instructions should be clearly written on the pack, weekly kit was also suggested and last but not the least the word TB and the arrow symbol should not be written on the pack.

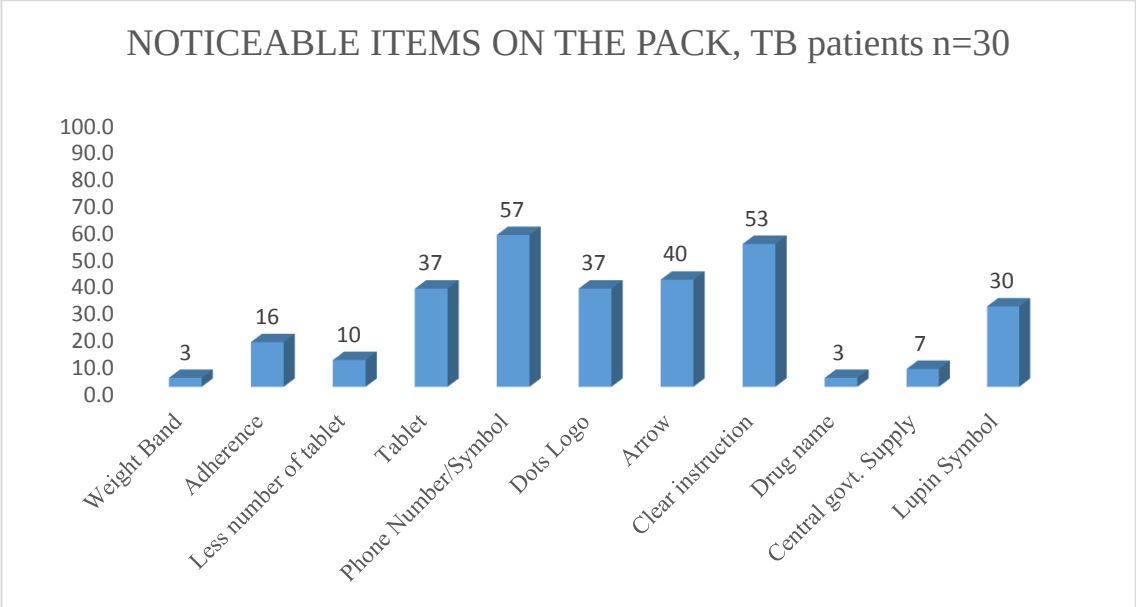


Fig 4.8: Noticeable items on the pack (TB Patients)

The items that were noticed on the pack by the TB patients were- the packs were designed according to the specific weight bands, number of tablets to be had is less as compared to the medicine currently being taken by the patients, the phone symbol and number were noticed, the DOTS logo was noticed, the arrow symbol was noticed, the instructions was noticed, the central government supply and LUPIN symbol were also noticed.

Table 4.1: Name suggestions by Patients/Doctors/Pharmacists

Patients	Doctors	Pharmacists
DOTS DROP	TB Cure Pills	ATB Kit
Swasth Seva	KOCHS Pills	My Health
Frotin	Stop TB Pills	TB Tab Pack
RIPE	Self daily regimen	Combi Tab Pack
TB Cure and TB Dose	100% KOCHS	TC Kit
Solonex Best	KOCHS	
TB ki dawaa	KOCHS TB Cure	
T2,T3,T4,T5	Kill TB	
Sehat aur Sudhar	ATT (Anti Tuberculosis Treatment) TRI-IN TRI-CON	
Curatin		
Life Pill		
Mazbooti ki dawaai, Swasth ki dawaai		
Khushi ki Goli,Sehat ki Goli		
Smile Pills		
Pragati Pills		
Pro Health		
Power Pills		
Meri Goli		

Key findings from the FGDs conducted with non TB patients-

The following major things were noticed by all-

- The phone symbol, the arrow symbol, the starting point, instructions, logo, packing and the weight band wise medicine pack.

The improvements suggested include-

- The language used for writing instructions and information on the pack should be in Hindi or the local language for the convenience of the patient and the caregiver.
- The tablet size should be reduced.
- The tablets should be colour coded day wise.

- The font size of the instructions should be increased and it should be in BOLD letters.
- Instead of using paper cover plastic cover should be used for packing. The arrow and direction of having medicine should be in a vertical fashion/manner.
- A use manual should be provided with the pack of medicines. The medicines should be colour coded preferably in pink,green and white colours.

Name suggestions given by non-TB patients-

- Life Pills
- Medicine Pack
- RCINOL
- SEHAT
- Smart Pills

Tagline suggestions made by non-TB patients-

- “Secure your life”
- “Ek khaoge, TB door ho jayega"
- " Din mein chaar khao, aur TB ko bhagao"
- "Medicine pack khao, TB se chutkara pao"
- “DO GOLI ZINDAGI KI”
- “RCINOL ON TB GONE”
- “NEW WAY TOWARDS THE LIFE” (NAYI RAAH ZINDAGI KI AUR)
- “ROZ LOGE SEHAT TO RAHOGE ACCHE BEHAD”
- “Goli khayenge Bhart Desh Bachayenge”
- “Smart pills for Smart Cure”
- “life se life jiyoo”
- “,Jivan Jaghrookh Dawa, Jivan Rkshak dawa.”

Key points from FGDs conducted by CBOs,Field Officers, ASHAs-

The following major things were noticed by all- The LUPIN logo, the RNTCP logo, Central Government Supply, the name of the drug,phone symbol, instructions, Arrow symbol,Start/Stop symbol,weight band,the phase of the medicine.

The improvement suggestions include-

- the instruction and information should be in Hindi or local language
- logo should be removed

- The RNTCP logo should be removed
- the colour of the tablet should be changed
- the anti-TB symbol should be removed
- a user manual should be provided with the pack
- here should be consistency in the positioning of the phone symbol
- there should be a representation of the side effects on the pack
- The size of the tablet should be reduced
- The instruction should clearly indicate whether the patient has to have it before or after meal.

- Name suggestions for the pack-
- Yacchma
- HRZE
- IP
- Chhay Aahar
- Pratidin Aahar
- 'Life Drug'
- Drug 4, Drug 3
- Micro Plus,
- 100 DOTS
- TB ki dawaa,
- Tapedi
- Puranka Bimaari,
- 'Yacchma' or 'Yakshma'

Tagline Suggestions for the pack-

- Roz Khaye, TB Ko Dur Bhagaye
- Niyamit Khaye, Course Complete Kare
- Roz subha khane ki baad,DOTS khaye
- India se TB bhagana hai,pratidin dawaa khana hai,
- Humein TB bhagana hai
- Be regular, be healthy,
- Jeevan hai aapke haath me

- 6 months tak khilana hai lagatar
- 6 months dawaa khao, TB bhagao.

5DISCUSSION

The data analysis that was conducted using qualitative and quantitative methods brought out the main findings of the research. The stakeholderwise findings are given below-

Doctors- The analysis of the IDI of the doctors led to the following findings-

Improvements suggested by doctors to make the pack better-

- Reduction in the size of the tablet
- Make the Fixed Dose Combination (FDC) in the form of a capsule
- Cover to be me thinner
- Instructions to be written in English, Hindi and the local language of the state

Names suggested by the doctors-

- ATT (Anti-Tuberculosis Treatment)
- TRI-IN, TRI-CON
- Kill TB
- Self Daily Regimen
- 100%KOCHS
- KOCHS TB CURE
- KOCHS RELIEF
- KOCHS
- TB Cure Pills
- KOCHS Pills
- Stop TB Pills

Taglines suggested for the pack are-

- “TB na ilaaj nahin hai”
- “Be Safe”
- “Ublabhta abhi sunischit hai”
- “Get relief in the easiest way”
- “ Fight before it starts”
- “Goli khao, TB bhagao”
- “Good health, pure health”

Pharmacists- The in-depth interviews with the pharmacists led to the following findings-

Suggestions given to improve the pack are-

- Medicine name should be explicitly mentioned on the pack along with the dosage
- Patient dosage instructions i.e. whether to have the medicine before or after the meal should be clearly specified on the pack
- Manufacturing date, expiry date and batch number should be mentioned on the pack
- The day of the week on which the medicine is supposed to be had should be mentioned on the particular medicine cover
- The medicine containing the phone symbol should be colour coded differently so that it can be easily identified
- As the packs are arranged according to the weight band, every pack should be of a different colour. So four packs should be of four different colours.
- Serial numbers should be given on the medicine pack and not just on the sleeve.
- A user manual should be provided to the patients along with the pack
- The language in which the instructions are written on the pack should be both in Hindi and in local language

Names suggested for the pack are-

- TB Kit
- ATB Kit
- 4ATB Kit
- Anti-TB
- Rejufix,
- RIPE Kit
- TB Tab pack
- Combi Tab pack
- Combi Pill Tab
- TB pill Tab
- TC Kit (Tuberculosis Control Kit)

Taglines suggested for the pack are-

- " Bimaari bhagaana hai, Anti-TB dawaai khana hai",
- Do goli zindagi bachaane ke liye,
- "Roj fix kariye hamesha khush rahiye",
- "Do goli zindagi bachaane ke liye",
- "Course kea age zindagi hai",
- "T C Kit pura karo aur zindagi accha jiyo",
- "Sab marz ki ek dawaa aur iss marz ki yahi dawaa"

Health Staff (District Tuberculosis Officer, Tuberculosis Health Visitor, Senior Treatment Supervisor) Findings-

The suggestions given to improve the pack are-

- Pictogram containing instructions should be bigger in size, otherwise it would not be visible
- User manual/pamphlet should be provided along with the pack
- The FDC should be in capsule form
- Lupin company symbol is not required so it should not be there on the pack.
- Instructions should be placed in front of the pack
- Logo should be big and attractive
- Number of tablets should be pictorially represented on the pack
- Program name should be printed on the arrow line to make it more attractive
- Expiry date should be visible on the pack
- One pack should be sleeved and the other packs should not be sleeved. This way there will be no confusion and cost of sleeving will be saved
- Instructions should be provided in English, Hindi and the local language of the state.

Name suggestions for the pack-

- TB Cure,
- 100% DOTS,
- Yakshma Sanjeevani,
- 28 day TB drug,
- TB Sanjeevani,
- Yakshma Jeevan Rakshak,
- Ab sirf 2 ya 3 tablet,
- K Kit (KOCHS Kit),
- TB drug kit.

Tagline suggestions for the pack-

- “99DOTS khaiye hamesha khush rahiye”,
- “TB ke baad zindagi”
- “DOTS Apnayo,TB se mukti pao”
- “Yakshma Sanjeevani khao, parivaar mein khushiyaan lao”,
- “ Pura course, surashit zindagi”
- “ Daily khao, hamesha ke liye thik ho jao”
- “Cure for Sure”
- “Pakka ilaaj ka pakka vaada”.

Non-TB patients findings-

The suggestions given to improve the pack are-

- Decrease the size of the tablet
- Instructions should be written in Hindi or regional language for the convenience of the patients
- Tablets should be colour coded as red and blue tablets
- Pattern of taking medicine should be vertical and not horizontal

Names suggested for the pack are-

- TB Secure
- TB Secure Parivaar
- Victory Plus
- RCINOL (a combination of two drugs RCINEX and Ethambutol)
- SEHAT
- Lifeline Tablet
- Medicine Purse
- Taksh Pills
- Acchi Goli,
- Zindagi Pills
- Jaadu ki dawaai
- Smart Pills
- Relief Pills
- My DOTS
- Life Pills.

Taglines suggested for the pack are-

- “TB Secure for long life”
- “Secure your life”,
- “2 pills for life”
- “Buy for TB”
- “Buy for Health”
- “Do goli zindagi ki”
- “RCINOL on TB gone”
- “ Nayi raah zindagi ki aur”
- “Roz loge SEHAT toh acche rahoge behad”
- “Ek khaoge TB du rho jaega”
- “Din mein chaar khao, aur TB ko bhagao”

- “Medicine pack khao, TB se chutkara pao”
- “ Goli khayenge, Bharat desh ko bachayenge”
- “ Jadu lao,TB bhagao”,
- “Smart pills for smart cure”.

TB patients on 99DOTS findings-

Improvements suggested by the Tb patients on 99DOTS are-

- Decrease the tablet size
- Increase the size of the font
- Tablet should be circular in shape
- Sleeve should be smaller in size
- Vertical pattern should be followed for having the medicine
- Pictogram should be bigger in size
- There should be one fixed number on which the call would be placed
- Manual with pictorial information should be provided
- Patient dosage instruction should be given- whether to have the medicine before or after meal
- The day of the week on which the medicine is to be had should be mentioned on the cover of the medicine
- The instructions on the pack should be written in Hindi for the convenience of the patients

Name suggestions for the pack-

- Curatin
- Sehat
- Sudhar
- Life Pill
- Majbooti ki dawai
- Swasth ki dawai
- Khushi ki goli
- Sehat ki Goli,
- Smile Pill
- Meri dawaai
- Pragati Pills
- Pro Health
- Power Pills
- Shakti ki Goli.

Tagline suggestions for the pack-

- Curatin- Jaldi Suraksha Behtar Suraksha,
- Chaar goli sehat ke liye, Swasth jeevan ke aur
- TB se suraksha
- Jagrook raho,swasth raho
- taakat ki goli, hamare ke liye.

TB patients not on 99DOTS (Private Sector) findings-

Suggestions given to improve the pack are-

- Decrease in the size of the tablet
- Size of the font should be increased
- Dose 1, dose 2 should be written on the cover of each tablet alongwith the date
- Tablets should be positioned in a straight fashion
- Size of the logo should be increased
- Instructions should be written in English and in Hindi

Name suggestions for the pack are-

- Medicine for cough
- Daily dose
- T2,T3,T4,T5
- TB ki dawaa
- TB Care
- TB Dose
- R.I.P.E.

Tagline suggestions for the pack are-

- “Everyday only three”
- “Relief from cough”
- “Easily Cure”,
- “T3 khao fit ho jao”,
- “TB ki dawaa khakar TB stip kijiye”
- “TB dose khaaiyein, bimaari door bhagaiyein”
- “Dawaa lein, surakshit rahein”
- “R.I.P.E dawaa lijiye or TB ko door bhagaiyein”.

TB patients not on 99DOTS (Public Sector) findings-

Suggestions given to improve the pack were-

- The tablet size should be reduced
- One constant number should be there on which the patient has to place the call
- Day on which the pill is to be taken should be mentioned on the cover of the pill
- Manual of instructions written in the local language should be provided to the patient along with the pack
- The medicines should be placed in a vertical fashion not in a horizontal manner
- Font size of the instructions should be increased
- Tablet colour should be green or red

- Toll free number should be written on the instructions clearly and not hidden beneath the flap of the medicine.
- Instructions should be written both in English and in Hindi

Name suggestions for the pack-

- Apni Zindagi
- Meri Goli
- Laal Goli
- Frotin
- DOTS DROP
- Swasth Seva.

Tagline suggestions for the pack-

- "Zindagi ki suraksha ke liye"
- "Call for India, to free from TB"
- "DOTS ko apnaye, khushal zindagi banaye".

From the findings we can see that some of the suggestions given by the stakeholders which are common to almost all the stakeholders cannot be accommodated as a modification in the pack like-reduction in tablet size, FDC to be made available in capsule form, colour coding tablets in green and red colour,change in the shape of the tablet and lastly having one fixed number on which one has to place a call. These are technical issues not related to the pack design and cover specifically, so cannot be modified. The rest of the suggestions can be accommodated to make the pack more visually attractive and comprehensive.

6.CONCLUSION

The data was collected and analysed and the findings were discussed. The main key points that came out in the form of feedback from the In depth interviews and focus group discussions are-

1. The tablet size should be reduced in order to make it easier for the patients to swallow the medicine.
2. The FDC should be made in the form of capsule to make it more attractive to the patients
3. Instructions should be written in English, Hindi and the local language of the state for the convenience of the patients
4. Patient dosage instructions should be clearly given on the pack
5. Manufacturing date, expiry date and the batch number should be clearly mentioned on the pack
6. The day of the week on which one has to take the particular tablet should be clearly mentioned on the cover of that medicine along with the date
7. A user manual guide written in Hindi or the local language of the state, in the form of a pamphlet/leaflet should be provided along with the pack for the convenience of the patients
8. The pictogram of instructions should be bigger in size to make it more visible to the patients
9. The font size of the instructions should be increased
10. Number of tablets to be taken per day should be pictorially represented on the pack (sleeve)
11. One pack should be sleeved and the other packs should not be sleeved. Thereby the patient takes one medicine from one pack and calls the number and the rest of the medicines form the other pack/s. This way confusion will be avoided and the cost of sleeving will also be lessened.
12. Medicines should be taken in a vertical fashion and not in a horizontal manner. The arrow should be placed in a vertical manner
13. One fixed number should be there on which one has to place the call.
14. The tablets should be placed in a straight manner and not in the diagonal fashion
15. The toll free number should be written with the instructions itself and not hidden beneath the flap of the medicine cover.

A lot of names were suggested for the pack. They are- ATT (Anti-Tuberculosis Treatment), TRI-IN, TRI-CON, Kill TB, Self Daily Regimen, 100%KOCHS,KOCHS TB CURE,KOCHS RELIEF,KOCHS,TB Cure Pills,KOCHS Pills, Stop TB Pills, TB Kit,ATB Kit,4ATB Kit,Anti-TB, Rejufix, RIPE Kit,TB Tab pack ,Combi Tab pack , Combi Pill Tab, TB pill Tab ,TC Kit (Tuberculosis Control Kit), TB Cure, 100% DOTS, Yakshma Sanjeevani,28 day TB drug, TB Sanjeevani, Yakshma Jeevan Rakshak, Ab sirf 2 ya 3 tablet,K Kit (KOCHS Kit), TB drug kit, TB Secure, TB Secure Parivaar, Victory Plus, RCINOL (a combination of two drugs RCINEX and Ethambutol),SEHAT, Lifeline Tablet, Medicine Purse, Taksh Pills, Acchi Goli, Zindagi Pills, Jaadu ki dawaai, Smart Pills, Relief Pills, My DOTS, Life Pills,- Curatin, Sehat,

Sudhar,Life Pill, Majbooti ki dawai, Swasth ki dawai, Khushi ki goli, Sehat ki Goli, Smile Pill, Meri dawaai, Pragati Pills,Pro Health, Power Pills, Shakti ki Goli, Medicine for cough, Daily dose, T2,T3,T4,T5, TB ki dawaa, TB Care, TB Dose and R.I.P.E.,Apni Zindagi, Meri Goli, Laal Goli,Frotin, DOTS DROP, Swasth Seva.

The taglines suggested were- -" Bimaari bhagaana hai, Anti-TB dawaai khana hai",Do goli zindagi bachaane ke liye,"Roj fix kariye hamesha khush rahiye","Do goli zindagi bachaane ke liye", "Course keaage zindagi hai","T C Kit pura karo aur zindagi accha jiyo", "Sab marz ki ek dawaa aur iss marz ki yahi dawaa","TB na ilaaj nahin hai", "BeSafe", "Uplabhta abhi sunischit hai", " Get relief in the easiest way", "Fight before it starts", "Goli khao, TB bhagao" and "Good Health, pure health","99DOTS khaiye hamesha khush rahiye", "TB ke baad zindagi","DOTS Apnayo,TB se mukti pao", "Yakshma Sanjeevani khao, parivaar mein khushiyaan lao", " Pura course, surashit zindagi", " Daily khao, hamesha ke liye thik ho jao", "Cure for Sure", "Pakka ilaaj ka pakka vaada","TB Secure for long life", "Secure your life", "2 pills for life", "Buy for TB", "Buy for Health", "Do goli zindagi ki", "RCINOL on TB gone", " Nayi raah zindagi ki aur", "Roz loge SEHAT toh acche rahoge behad", "Ek khaoge TB du rho jaega", "Din mein chaar khao, aur TB ko bhagao", "Medicine pack khao, TB se chutkara pao", " Goli khayenge, Bharat desh ko bachayenge", " Jadu lao,TB bhagao", "Smart pills for smart cure",- Curatin- Jaldi Suraksha Behtar Suraksha, Chaar goli sehat ke liye, Swasth jeevan ke aur, TB se suraksha, Jagrook raho,swasth raho, taakat ki goli, hamare ke liye, "Everyday only three", "Relief from cough", "Easily Cure", "T3 khao fit ho jao", "TB ki dawaa khakar TB stip kijiye", "TB dose khaaiyein, bimaari door bhagaiyein", "Dawaa lein, surakshit rahein", "R..I.P.E dawaa lijiye or TB ko door bhagaiyein".

It was seen that patients were unfamiliar with the 99DOTS technology and the daily regimen medication system. Largely all the stakeholders were of the opinion that the daily regimen will encourage more patient adherence as the patient will be taking medicines at the comfort of their homes and would not have to come to the centre every time to get his dose of medicine.

7.RECOMMENDATIONS

The study was exploratory in nature and the main aim of the study was to find out the community perception on 99DOTS for branding and repackaging purposes.

With regard to the design of the pack the following modifications should be made to make the pack more attractive-

a. The instructions on the pack should be written in English,Hindi and in the regional language for the easy understanding and convenience of the patients. Most TB patients do not understand English and therefore have difficulty in comprehending the instructions written. This is the prime reason why this modification should be made.
b. Patient dosage instructions should be clearly given on the pack i.e. whether to have medicine before meal or after meal. This would help the patients a lot.
c. Manufacturing date, expiry date and batch number should be clearly mentioned on the pack as mandatory precautionary measures.
d. A user manual written in Hindi and the local language of the state should be provided with the pack and coloured pictorial representation of the instructions should be present in the manual.
e. The font size of the instructions should be increased
f. The number of tablets to be taken per day should be pictorially represented on the sleeve
g. The medicine intake pattern should be vertical not horizontal.
h. To get rid of false call cases two modifications can be made. Either all the medicines should have phone symbols on their cover with only few having the number, so that the patient has to take the medicine before he discovers which one has the number thereby nearly eliminating the chances of a false call case. The other modification would be to not have the phone symbol on any of the medicines so that one has to take the medicine to find out actually which ones have the number hidden beneath the cover of the medicine.

The names that were found most suitable for use are- R.I.P.E, Yakshma Sanjeevani, T2,T3,T4,T5, 100% KOCHS, KOCHS RELIEF, RCINOL, Lifeline Tablet, TRI-IN, TRI-CON. All these names effectively hid the fact that the medicine is for TB thus making them ideal for use. TB still is regarded as a stigma in our society. The name that should be ideally chosen should be cross cutting and easily identifiable like –Easy 3,Easy 4, Lifeline etc.

The taglines that were best suited for the pack would be- Roj fix kariye hamesha khush rahiye",”Do goli zindagi bachaane ke liye”, “Course keaage zindagi hai”,”T C Kit pura karo aur zindagi accha jiyo”, “Sab marz ki ek dawaa aur iss marz ki yahi dawaa”,“TB na ilaaj nahin hai”, “BeSafe”, “Uplabhta abhi sunischit hai”, “ Get relief in the easiest way”,“Yakshma Sanjeevani khao, parivaar mein khushiyaan lao”, “ Pura course, surashit zindagi”, “ Daily khao, hamesha ke liye thik ho jao”, “Cure for Sure”, “Pakka ilaaj ka pakka vaada”,“RCINOL on TB gone”, “ Nayi raah zindagi ki aur”, “Roz loge SEHAT toh acche rahoge behad”, “Smart pills for smart cure”,- Curatin- Jaldi Suraksha Behtar Suraksha, Chaar goli sehat ke liye, Swasth jeevan ke aur,“T3 khao fit ho jao”.

8.SUPPLEMENTARY

8.1INSTRUMENTATION-Questionnaires used in the In-depth interviews and Focus Group Discussions along with the informed consent are given below.

Informed consent for Focus Group Discussion

This Informed Consent Form is for_____ whom we are inviting to participate in research titled "Exploratory research- Rebranding ICT based adherence technology 99DOTS for TB

Greetings from IMS Health. My name is _____ and I am working with IMS Health Information and Consulting Services India Pvt. Limited. With support from BMGF, IMS Health is conducting a field level review to find out community perspective about an ICT based adherence monitoring tool used for TB patients.

The findings of this assessment may be considered for rebranding of ICT based adherence monitoring tool

We request you to participate in this assessment and openly share your views and experiences. Information provided by you will be confidential and will only be used for developing the tool for TB program. The discussion will take maximum of 60 minutes to complete. Your participation in this discussion is voluntary and you can choose not to answer any question at your will.

If you have any question about the study, or you want to know more about it then you may contact IMS Health

Name	Village/ Block	Signature

FGD with ASHAs oriented in 99 DOTS

NOTE TO MODERATOR

The objective of this discussion is that participants

1. Suggest a NAME for the TB medicine sleeve
2. Suggest a TAG LINE (message) that highlight the process
3. Explore redesigning the pack
4. Suggest a NAME for the RNTCP programme

5. Suggest a CAMPAIGN MESSAGE for the TB programme

Please Note:

1. Encourage each participant to contribute to the discussion
2. Never dismiss or highly praise any suggestion.
3. After all participants share their inputs, discuss to achieve a consensus in the group on which name and tag line appeals the most to group members. (E.g. x/7 like ….;
4. Objectives 1 and 2 are primary. They should be covered within 60 min. Only if you have additional time, discuss objective 3 and 4 (i.e. RNTCP name and message)

Materials: Paper sheet and pencil to all respondents

Moderator greets the ASHAs and strikes a general conversation to make the respondents at ease and then starts the discussion.

1. Didi aap jab TB ke nivaran ke liye logo se (community) milte hain to koi pareshani aati hai ?
2. If yes . - Kis tarh ki samasya aati hai ?
3. Kya aap unhe TB ki dawa bhi dete hain / dilate hain ?
4. Us dawa ka kya naam hai ?
5. If resp. say 99 DOTS (Show 99d packs to confirm kya aise packet hoti hain ?)
6. If resp. do not say 99DOTS (Show packs to confirm – kya TB ki dawa aise packet mein hoti hai ?)
7. Aap mareez ko dawa dete vakt, kya baat samjhate hain ?

(Moderator to note the information ASHA provides the patient regarding the phone symbol and arrow pathway)

1. Kya sabhi TB patient dawa lene ke baad phone karte hain ?
2. (If phone response is poor) Apke vichar se, paient phone kyon nahi karte ? (If all patients call back regularly please move directly to question on arrow pathway.
3. Jo nahi phone karte aap unhe kaise samjhati hain ?

(Moderator to look for key words that highlight the importance of their message strategy)

4. Agar koi patient dawa nahi leta, to aap kya karti hain ? (Probe for frequency of phone reminder and home visit)
5. Jab aap unke ghar jaati hain to kya patient ko bura lagta hai ? (Probe for patient embarrassment)
6. Aap patient ko unke ghar par kaise samjati hain ?

(Moderator to look for key words that highlight the importance of their message strategy at patient's home)

(Moderator then shows the 99D pack to resp. and points to the arrow pathway)

7. Kya mareez dawai aise nikal kar hi khate hain ? Koi aur tareeka ? **(Moderator to probe if the ASHA's have come across different ways that the patients take the medicine)**

(If patients take incorrect order pill) - What do you tell the patients when they take an incorrect pill, i.e deviating from the sequence mentioned?

8. **If most resp. say that patients take as instructed (move to question on pack design)**
   If resp. say that patients face difficulty in following pathway and use a different process - Use the dummy blister tool to map how patients prefer to take the pills.

9. Is packet se aapko "**aur"** kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

10. Is packet ko aur accha /spasht banane ke liye kya sujhav dena chaheyenge ? (**probe colours, suggestions for pack design improvement)**

11. Is packet ko ek naya naam dena chahtein hain . Aap kya naam deinge ?Kyon ?

MODERATOR: Go around the group and discuss each option presented. Seek a consensus among the group for the most appropriate name.) (Moderator to probe the reason resp. thought up and suggested the new name. Explore any attribute to the process or medicine efficacy that the new name captures?)

12. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!

MODERATOR: Go around the group and discuss each option presented. Seek a consensus among the group for the most appropriate tagline

13. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….

14. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)

Thank the group and collect the response sheets

FGD with CBOs oriented in 99 DOTS

NOTE TO MODERATOR

The objective of this discussion is that participants

1. Suggest a NAME for the TB medicine sleeve
2. Suggest a TAG LINE (message) that highlight the process
3. Explore redesigning the pack
4. Suggest a NAME for the RNTCP programme
5. Suggest a CAMPAIGN MESSAGE for the TB programme

Please Note:

1. Encourage <u>each</u> participant to contribute to the discussion
2. Never dismiss or highly praise any suggestion.
3. After all participants share their inputs, discuss to achieve a consensus in the group on which name and tag line appeals the most to group members. (E.g. x/7 like ….;
4. Objectives 1 and 2 are primary. They should be covered within 60 min. Only if you have additional time, discuss objective 3 and 4 (i.e. RNTCP name and message)

Materials: Paper sheet and pencil to all respondents

Moderator greets all respondents and strikes a general conversation to make the respondents at ease. Once the group is warmed up, handover the sleeved blisters to the group. Make sure, all respondents have 1 blister and spent significant amount of time assessing the packet.

1. Is pack mein aapka Kin 4-5 cheezon par dhyan gaya?

Moderator cue- if any of the respondent mentions phone, arrow- take that cue and ask follow up question. If not- directly point towards the phone symbol and lead the discussion

1. Yeh phone ka nishan kis liye hai ?

2. Is par yeh teer se kya samaj mein aa raha hain?

If 1&2 symbol/instruction is not clear, discuss how this can be improved

3. Yadi aapko ek mahine lagatar do dawa khani pade toh, is chitra pe teer ke nishan banakar bataye aap kaise khaoge ? **(Moderator to probe process using dummy blister tool)**

4. Is packet se aapko "**aur"** kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

5. Is packet ko aur accha /spasht banane ke liye koi sujhav dena chaheyenge ? (**probe colours, suggestions for pack design improvement)**

6. Since you have been following up with TB Patients; what are the treatment adherence related challenges you face?

7. From your experience, how will you encourage patients to call back? **(Moderator to look for key words that highlight the importance of their message strategy**)

8. What do you tell patients you follow up for reminder visits? **(Probe for key words and patient embarrassment**)

9. What do you do when patients take a wrong pill?

(Capture key points and reinforce to group) Highlight shift in treatment to daily regimen and challenge of adherence. Explain how the cover assists the adherence process)

10. Is packet ko aap kya naam dena chaheinge ? (If required Moderator may recall suggestion about brands mentioned in A)

Go around the group and discuss each option presented. Seek a consensus among the group for the most appropriate name

11. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!

Go around the group and discuss each option presented . Seek a consensus among the group for the most appropriate tagline

12. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….

13. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)

Thank the respondents for their time and collect their sheets.

FGD with NON-TB PATIENTS

NOTE TO MODERATOR

The objective of this discussion is that participants

1. Suggest a NAME for the TB medicine sleeve
2. Suggest a TAG LINE (message) that highlight the process

3. Explore redesigning the pack
4. Suggest a NAME for the RNTCP programme
5. Suggest a CAMPAIGN MESSAGE for the TB programme

Please Note:

1. Encourage each participant to contribute to the discussion
2. Never dismiss or highly praise any suggestion.
3. After all participants share their inputs, discuss to achieve a consensus in the group on which name and tag line appeals the most to group members. (E.g. x/7 like ….;
4. Objectives 1 and 2 are primary. They should be covered within 60 min. Only if you have additional time, discuss objective 3 and 4 (i.e. RNTCP name and message)

Materials: Paper sheet and pencil to all respondents

Moderator greets all respondents and strikes a general conversation to make the respondents at ease. Once the group is warmed up, handover the sleeved blisters to the group. Make sure, all respondents have 1 blister and spent significant amount of time assessing the packet.

1. Is pack mein aapka Kin 4-5 cheezon par dhyan gaya?

Moderator cue- if any of the respondent mentions phone, arrow- take that cue and ask follow up question. If not- directly point towards the phone symbol and lead the discussion

2. Yeh phone ka nishan kis liye hai ?

3. Is par yeh teer se kya samaj mein aa raha hain?

4. Yadi aapko ek mahine lagatar do dawa khani pade toh, is chitra pe teer ke nishan banakar bataye aap kaise khaoge ? **(Moderator to probe process using dummy blister tool)**

5. Is pack se aapko aur kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

6. Is pack ko aur accha /spasht kaise bana sakte hain? (**probe colours, suggestions for pack design improvement)**

7. Aap ne TB ki bimari ke bare mein suna hoga, kya jante hain ?

(Capture key points and reinforce to group) Highlight shift in treatment to daily regimen and challenge of adherence. Explain how the pack assists the adherence process)

Tell resp. we will play a short game. Ask everyone to close their eyes and name the first product that comes to their mind when you announce the word. (Do this quickly, so that you are able to capture spontaneous responses around the group)

Play word game
Moderator: 1. Noodles 2. Toothpaste 3. Biscuits 4. Khansi (Cough) 5. Sardard (headache)
(Moderator can suggest alternate products as per resp. profile)
Ask the resp. if they remember the tag line of the brand they mentioned.

8. Is pack ko aap kya naam denge? (If required Moderator may recall suggestion about brands mentioned in game) Kyon ?

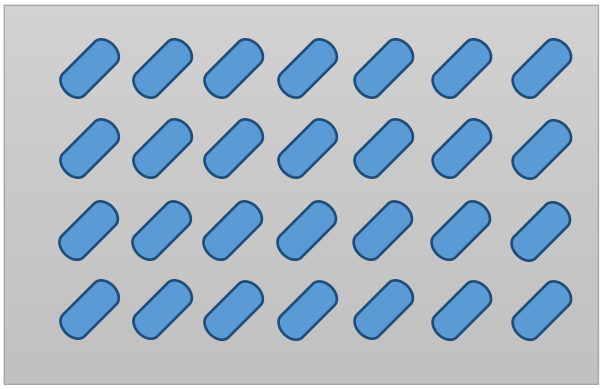
(Go around the group and discuss each option presented. Seek a consensus among the group for the most appropriate name.) (Moderator to probe the reason resp. thought up and suggested the new name. Explore any attribute to the process or medicine efficacy that the new name captures?)

a. Is naame ke saath aap koi line ka sujhav dein ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!)

Go around the group and discuss each option presented . Seek a consensus among the group for the most appropriate tagline

9. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….

10. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)



Informed consent for IDI

This Informed Consent Form is for_____ whom we are inviting to participate in research titled “Exploratory research- Rebranding ICT based adherence technology 99DOTS for TB

Greetings from IMS Health. My name is _____ and I am working with IMS Health Information and Consulting Services India Pvt. Limited. With support from BMGF, IMS Health is conducting a field level review to find out community perspective about an ICT based adherence monitoring tool used for TB patients.

The findings of this assessment may be considered for rebranding of ICT based adherence monitoring tool

We request you to participate in this assessment and openly share your views and experiences. Information provided by you will be confidential and will only be used for developing the tool for TB program. The discussion will take maximum of 60 minutes to complete. Your participation in this discussion is voluntary and you can choose not to answer any question at your will.

If you have any question about the study, or you want to know more about it then you may contact IMS Health.

Signature of Interviewer: Signature of Respondent:

IDI with TBHVs/STS oriented in 99 DOTS

1. Aap jab TB ke nivaran ke liye logo se (community) milte hain to koi pareshani aati hai ?
2. If yes, Kis tarh ki samasya aati hai ?
3. Aap mareez ko dawa dete vakt, kya baat samjhate hain ?

   (Interviewer to note the information staff provides the patient regarding the symbol and arrow pathway)

4. Kya sabhi TB patient dawa lene ke baad phone karte hain ?
5. (If phone response is poor) Apke vichar se, patient phone kyon nahi karte ? (If all patients call back regularly please move directly to question on arrow pathway.
6. Jo nahi phone karte aap unhe kaise samjhatehain ?

   (Interviewer to look for key words that highlight the importance of their message strategy)

7. Agar koi patient dawa nahi leta, to aap kya kartehain ? (Probe for frequency of phone reminder and home visit)
8. Jab aap unke ghar jaate hain to kya patient ko bura lagta hai ? (Probe for patient embarrassment)
9. Aap patient ko unke ghar par kaise samjatehain ?

   (Interviewer to look for key words that highlight the importance of their message strategy at patient's home)

   (Interviewer then shows the 99D pack to resp. and points to the arrow pathway)
10. Kya mareez dawai aise nikal kar hi khate hain ? Koi aur tareeka ? **(Interviewer to probe if the staff have come across different ways that the patients take the medicine)**

    (If patients take incorrect order pill) - What do you tell the patients when they take an incorrect pill, i.e deviating from the sequence mentioned?

11. **If most resp. say that patients take as instructed (move to question on pack design)**

    If resp. say that patients face difficulty in following pathway and use a different process - Use the dummy blister tool to map how patients prefer to take the pills.

12. Is packet se aapko "**aur"** kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

13. Is packet ko aur accha /spasht banane ke liye kya sujhav dena chaheyenge ? (**probe colours, suggestions for pack design improvement)**

14. Is packet ko ek naya naam dena chahtein hain . Aap kya naam deinge ?Kyon ?

15. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!

16. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush) ,….
17. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)

IDI with DTO

1. Please review this blister pack sleeve. Since you are in touch with multiple patients, in your opinion does this packet designwork for counselling TB patients?

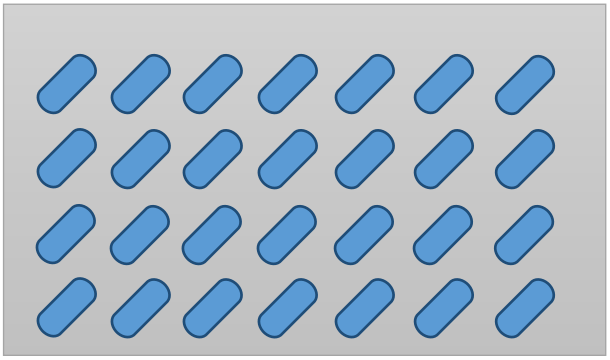
2. Do you think the patient will call back after taking the pills?

3. How will you encourage patients to call back? **(Moderator to look for key words that highlight the importance of the Doctor's message strategy**)

4. Any suggestions to improve the pack design? **(probe for colour coding of 2,3 , 4 and 5 pill FDCs packs, colour banding of daily dose , arrow indicating route for daily pill intak**e)

5. Does the patient prefer a different pathway for taking the pills out?

(if YES - Moderator shares dummy blister pack and requests resp. to mark the pathway to take out the medicine)



6. Please suggest a name for this pack

7. Why does this name appeal to you? (Moderator to probe for the rationale (process technology/ shift in treatment etc) behind the choice of name.)

8. Please suggest a catchy slogan /tagline for this pack

9. RNTCP is looking for a new name. Would you like to suggest one that reflects the paradigm shift in treatment and adherence ?
10. A campaign line for TB that can replace /complement Poora Course Pakka Ilaj ?

IDI with Private Doctors

1. Please review this blister pack sleeve. Since you are in touch with multiple patients, in your opinion does this packet designwork for counselling TB patients?

2. Do you think the patient will call back after taking the pills?

3. How will you encourage patients to call back? **(Moderator to look for key words that highlight the importance of the Doctor's message strategy**)

4. Any suggestions to improve the pack design? **(probe for colour coding of 2,3 , 4 and 5 pill FDCs packs, colour banding of daily dose , arrow indicating route for daily pill intak**e)

5. Does the patient prefer a different pathway for taking the pills out?

   (if YES - Moderator shares dummy blister pack and requests resp. to mark the pathway to take out the medicine)

6. Please suggest a name for this pack

7. Why does this name appeal to you? (Moderator to probe for the rationale (process technology/ shift in treatment etc) behind the choice of name.)

8. Please suggest a catchy slogan /tagline for this pack
9. RNTCP is looking for a new name. Would you like to suggest one that reflects the paradigm shift in treatment and adherence ?
10. A campaign line for TB that can replace /complement Poora Course Pakka Ilaj ?

IDI with UATBC PATIENTS
NOTE TO MODERATOR
The objective of this discussion is that participants

1. Suggest a NAME for the TB medicine sleeve
2. Suggest a TAG LINE (message) that highlight the process
3. Explore redesigning the pack
4. Suggest a NAME for the RNTCP programme
5. Suggest a CAMPAIGN MESSAGE for the TB programme

Moderator greets the respondent and strikes a general conversation to make the respondent at ease and then starts the discussion.

1. Aap TB bimari ki dawa kab se le rahe hain ?

2. Kya naam hai dawa ka ?

3. Kya kabhi dawa lena bhool jate hain?

4. Phir aap kya karte hain?
(Capture key points and reinforce to group) Now, highlight shift in treatment to daily regimen and challenge of adherence (per background note detailed below). Explain how the pack assists the adherence process and handover the pack to the responde,nt
5. Is pack mein aapka Kin 4-5 cheezon par dhyan gaya?

6. Yeh phone ka nishan kis liye hai ?

7. Is par yeh teer se kya samaj mein aa raha hain?

8. Yadi aapko ek mahine lagatar do dawa khani pade toh, is chitra pe teer ke nishan banakar bataye aap kaise khaoge ? **(Moderator to probe process using dummy blister tool)**

9. Is pack se aapko "**aur"** kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

10. Is pack ko aur accha /spashtkasie bana sakte hain?(**probe colours, suggestions for pack design improvement)**

11. Kya is pack ka, aur phone karne ka, aapko koi fayda lagta hai ?(Compare present patient treatmentwith new treatment)

12. Kya fayda hai ?

13. Kya nuksaan hai ?

WORD GAME: 1. Noodles 2. Toothpaste 3. Biscuits 4. Khansi (Cough) 5. Sardard (headache)
(Moderator can suggest alternate products as per resp. profile)
Ask the resp. if they remember the tag line of the brand they mentioned.

14. Is pack ko aap kya naam dena chaheinge ?Kyon ?**(If required Moderator may recall suggestion about brands mentioned in word game .(Moderator to probe the reason resp. thought up and suggested the new name. Explore any attribute to the process or medicine efficacy that the new name captures?)**

15. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!

Thank the respondent and wish him/her a speedy recovery ?

16. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….)

17. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)

IDI with Private Pharma

1. Any suggestions to improve the pack design ? **(probe for colour coding of 2,3 , 4 and 5 pill FDCs, colour banding of daily dose , arrow indicating route for daily pill intak**e)

2. Do you think the patient will call back after taking the pills ?

3. How can patients be encouraged to call back ? **(Moderator to look for key words that highlight the importance of the message strategy**)

4. Please suggest a few names for these FDCs

5. Please suggest a catchy slogan /tagline for this medication

6. Government TB Program is looking for a new name. Would you like to suggest one that reflects the paradigm shift in treatment and adherence ?

A campaign line for TB that can replace /complement Poora Course Pakka Ilaj ?

IDI with Public Sector TB Patients not on 99 DOTS
NOTE TO MODERATOR
The objective of this discussion is that participants

1. Suggest a NAME for the TB medicine sleeve
2. Suggest a TAG LINE (message) that highlight the process
3. Explore redesigning the pack
4. Suggest a NAME for the RNTCP programme
5. Suggest a CAMPAIGN MESSAGE for the TB programme

Moderator greets the respondent and strikes a general conversation to make the respondent at ease and then starts the discussion.

1. Aap TB bimari ki dawa kab se le rahe hain ?

2. Kya naam hai dawa ka ?

3. Kya kabhi dawa lena bhool jate hain?

4. Phir aap kya karte hain?
(Capture key points and reinforce to the respondent on the challenges faced.Explain how an innovative ICT based adherence monitoring has been designed (note below) that assists the adherence process and handover the pack to the respondent)

5. Is pack mein aapka Kin 4-5 cheezon par dhyan gaya?

6. Yeh phone ka nishan kis liye hai ?

7. Is par yeh teer se kya samaj mein aa raha hain?

8. Yadi aapko ek mahine lagatar do dawa khani pade toh, is chitra pe teer ke nishan banakar bataye aap kaise khaoge ? **(Moderator to probe process using dummy blister tool)**

9. Is pack se aapko "**aur"** kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

10. Is pack ko aur accha /spashtkasie bana sakte hain (**probe colours, suggestions for pack design improvement)**

11. Kya is pack ka, aur phone karne ka, aapko koi fayda lagta hai ?(Compare present patient treatmentwith new treatment)

12. Kya fayda hai ?

13. Kya nuksaan hai ?

WORD GAME: 1. Noodles 2. Toothpaste 3. Biscuits 4. Khansi (Cough) 5. Sardard (headache)
(Moderator can suggest alternate products as per resp. profile)
Ask the resp. if they remember the tag line of the brand they mentioned.

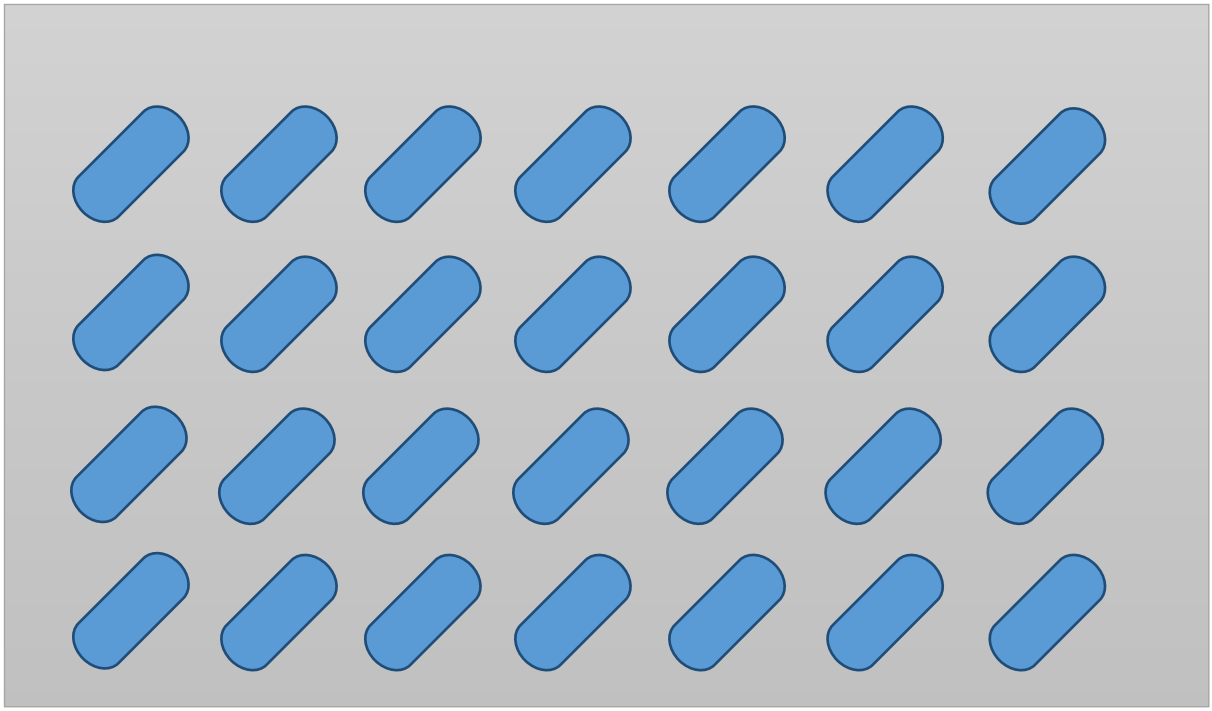
14. Is pack ko aap kya naam dena chaheinge ?**(If required Moderator may recall suggestion about brands mentioned in word game)**

15. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!

Thank the respondent and wish him/her a speedy recovery ?

16. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….)

17. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)



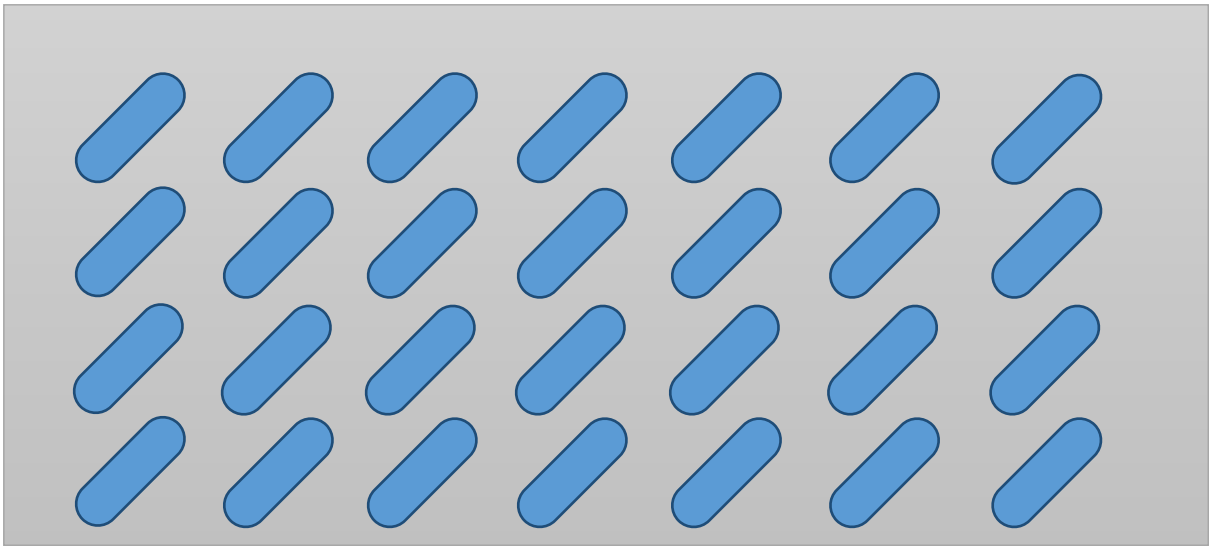
NOTE TO MODERATOR
The objective of this discussion is that participants

6. Suggest a NAME for the TB medicine sleeve
7. Suggest a TAG LINE (message) that highlight the process
8. Explore redesigning the pack
9. Suggest a NAME for the RNTCP programme
10. Suggest a CAMPAIGN MESSAGE for the TB programme

Moderator greets the respondent and strikes a general conversation to make the respondent at ease and then starts the discussion.

1. Aap kab se yeh dawa kha rahe hain ?
2. Is dawa ka kya naam hai ?
3. Is par yeh teer se kya samaj mein aa raha hain?
4. aap dawai kis samay aur kaise nikal kar khate hain ? **(Moderator to probe process)**
5. Kya aapne kabhi galati se koi aur goli nikali hai ?Phir kya kiya ?

6. Kya aap goli koi aur tereeke se khana pasand karte hain ? (if YES - Moderator shares dummy blister pack and requests patient to mark the pathway in which they take the medicine)



7. Dawa khane ke baad Aap phone kab karte hain ?

8. aap phone kyon karte hain ?

9. Call karne se aapko kya fayda lagta hai ?**(probe for emotional satisfaction that the patient feels and any factual information that the patient is aware of)**

10. Kya aap kabhi number par call karna bhool gaye ?Kyon ? Kya hua tha ?

11. Kya kabhi aapne dawai miss kari hai ? Kyon ?

11.Kabhi koi TB worker ne aapko reminder call ya visit ki ? **(Probe forembarrassment)**

12.Agar aap pill lena band kar de to kya hoga ? **(explore information-depth regarding importance of adherence)**

13.Jaise ki phone aur teer ke nishann ke bare mein bataya is packet se aapko "**aur"**kya pata chal raha hai? **(probe RNTCP logo, slogan , pictograms)**

14. kya aapko ye packet istemal karne mein koi pareshani hui hai ? if yes, kya?

15. Isk pack ko aur accha kaise bana sakte hian? (**basis the challenges faced by respondent, also probe for change in colours, suggestions for pack design improvement)**

16. Is pack ko aap kya naam deinge ? **(based on response recd in Q2)**

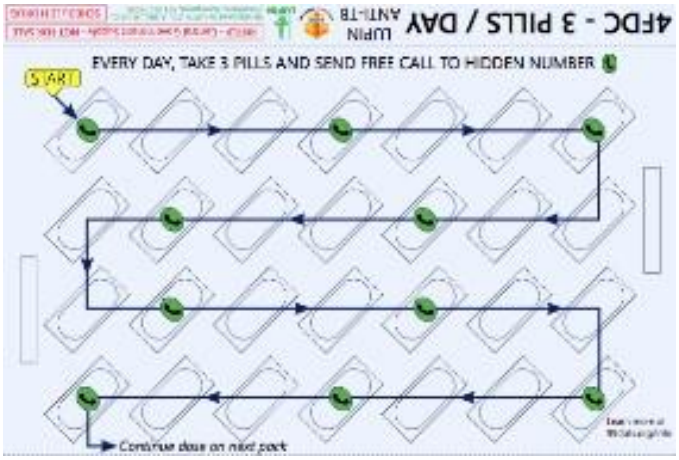
16A. Aapne aisa naam kyon socha ? (Moderator to probe D99 user, the reason s/he thought up and suggested the new name. Explore any attribute to the process or medicine efficacy that the new name captures?)

17. Is naame ke saath aap koi line ka sujhav de sakte hain ?(E.g. colgate ka suraksha chakr ;maggi - tasty bhi , healthy bhi; Coldarin - sardi se de aaram , chusti se chale kaam, Mountain Dew -Dar ke aage jeet hai!)

18. Agar poore desh mein TB program ka naam rakhna ho to aap kya sujhav denge ? (E.g : Swach bharat abhiyan , Indradhanush ,….)

19. TB program ke liye koi line ? (Eg. Polio - Do boond zindagi ke)

8.2IMAGES OF 99DOTS



9BIBLIOGRAPHY

1. World Health Organization. Global Tuberculosis Report 2016 (WHO/HTM/TB/2016). Geneva: The Organization;2016[last accessedon 2017 May 8]http://www.who.int/tb/publications/global_report/en/

2. Ministry OF Health and Family Welfare;Central Tuberculosis Division: TB India 2017 [cited on 2017 May 8] http://tbcindia.nic.in/WriteReadData/TB%20India%202017.pdf

3.World Health Organization: TB factsheet. Geneva: The Organization;2016[last accessed on 2017 May 4] http://www.who.int/tb/publications/factsheet_global.pdf?ua=1

4. World Health Organization. Digital Health For The End TB Strategy: An Agenda For Action. (WHO/HTM/TB/2016) Geneva: The Organization;2017 [last accessed on 2017 May 9] http://www.who.int/tb/publications/digitalhealth-TB-Agenda/en/

5. Rachel MT, Jasjeet M, Faith G, Anita S et al: Novel participatory methods of involving patients in research: naming and branding a longitudinal cohort study,BRIGHTLIGHT. BMC Med Res Methodol[Internet] 2015 March [last accessed on 2017 May 9] 15(20):2. Available from Bio Med Central: https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/s12874-015-0014-1

6. Jose AN, Ake G et al. Mobile health treatment support intervention for HIV and Tuberculosis in Mozambique: Perspective of patients and healthcare workers. PLoS One[Internet]2017 April[last accessed on 2017 May 8];12(4):1. Available from PLoS One:http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0176051

7. Denis F, Hazim T et al. Digital health for the End TB Strategy: developing priority products and making them work.ERJ Open Res[Internet]2016 April[last accessed on 2017 May 3] [unknown]:31-32Available from ERJ Open Research:https://www.msh.org/sites/msh.org/files/falzon_digital_health_for_the_end_tb_strategy.pdf

8. Guidance for Industry and Review Staff. Target Product Profile – A Strategic Development Process Tool. DRAFT GUIDANCE.[last accessed on2017 April 20] www.fda.gov/downloads/drugs/guidancecomplianceregulatoryinformation/guidances/ucm080593.pdf

9. Behavior-drivendevelopment.[last accessed on 2017 May 8] Available On: https://en.wikipedia.org/wiki/Behavior-driven_development

10.Kik SV, Denkinger CM, Casenghi M, et al. Tuberculosis diagnostics: which target product profiles should be prioritised? Eur Respir J[Internet] 2014[last accessed on 2017 May 9]; 44: 537–540

11World Health Organization. High-priority target product profiles for new tuberculosis diagnostics: report of a consensus meeting (WHO/HTM/TB/2014.18). [last accessed on 2017May 2] Available on: http://apps.who.int/iris/bitstream/10665/135617/1/WHO_HTM_TB_2014.18_eng.pdf

12.Liu X, Lewis JJ, Zhang H, et al. Effectiveness of electronic reminders to improve medication adherence in tuberculosis patients: a cluster-randomised trial. PLoS Med 2015[last accessed on 2017 May 3]; 12: e1001876.

13.Lönnroth K, Migliori GB, Abubakar I, et al. Towards tuberculosis elimination: an action framework for low-incidence countries. Eur Respir J 2015[last accessed on 2017 May 2]; 45: 928–952.

14. Diel R, Loddenkemper R, Zellweger J-P, et al. Old ideas to innovate tuberculosis control: preventive treatment to achieve elimination. Eur Respir J 2013[last accessed on 2017 May 2]; 42: 785–801.

15. D'Ambrosio L, Dara M, Tadolini M, et al. Tuberculosis elimination: theory and practice in Europe. Eur Respir J 2014[last accessed on 2017 May 2]; 43: 1410–1420.