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Perceptions of 99dots among Health Staff and Beneficiaries Attending the Visakhapatnam District Hospital, Andhra Pradesh

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ABSTRACT

Back Ground: The Need of the hour in TB treatment is compliance and motivation to prevent drug resistance TB. To achieve this one of the methods adopted keeping in mind the easy availability of mobile phones is 99DOTS. The study was conducted to know the perception of 99DOTS among Health staff and Beneficiaries.

Methodology: A Qualitative study was conducted by doing In-depth interviews and Focus Group Discussions (FGDs) during November 2017 at ART Centre and TB Hospital. Sample size included beneficiaries on Phone call (22), one to one interviews (5) of Beneficiaries, Key informants (8), and FGDs (2).

Results: Key informants perceived that it as a good programme as the reason being adherence and protection of patient identity is maintained. Problems regarding 99 dots are missing of direct observation of the patient regarding consumption of the tablet and problem in usage of mobile phones by illiterates. Patients perceived the concept of 99 dots as a good programme as adherence is improved and their personal privacy is protected. Problems like lack of personal phone, difficulty in usage of phone, non-availability of Network and seeking help from others due to illiteracy.

Conclusion: 99DOTS improves convenience to patients and allows providers to focus on non-adherent patients. Patients have to be trained for using mobile features such as remainders, alerts.

Key Words: 99DOTS, Perceptions, Adherence, Visakhapatnam

INTRODUCTION

The incidence of all forms of TB in India is nearly 2.790 million. [1] It was found that relapse rate is almost 10% which is leading for development of drug resistance TB.[2] Azhar GS conducted systematic review on 7 papers and found that relapse rate is almost 10 % which is higher when compared to the international studies , majority of relapse cases present soon after completion of treatment (first six months) and concluded that treatment preferences and patient behavior in a complex multi-provider healthcare system like India can be better understood by qualitative studies supplementing the proposed randomized studies. [3] Thomas A in his study observed that 12% relapse rate during the 18-month period, 77% of during the first 6 months of follow-up.[4] Kulkarni PY in his study observed that the 50% were non-adherent to anti-tuberculosis treatment and emphasized that being male and lack of knowledge regarding the importance of Tuberculosis treatment were important independent risk factors .[5] The need for the hour is compliance. Many studies have been conducted to decrease the relapse rate like introduction of daily regime[6] and also role and also usage of Mobile phone.[7] To increase the compliance one of the methods adopted keeping in mind the easy availability of mobile phones is 99 DOTS. This approach is a low cost approach for monitoring and improving TB medication adherence.[8] As this pharmaco

economic approach has launched recently at Andhra Pradesh the present study is undertaken to know the perception of 99DOTS among Health staff and Beneficiaries.

MATERIALS AND METHODS:

The present study was conducted in the dept of ART center attached to the King George hospital, Visakhapatnam, Andhra Pradesh. King George hospital is a tertiary care hospital with 1200 bed and covers 3 districts namely Visakhapatnam, Vizianagaram and Srikakulam.

The respondents are Beneficiaries who were taking Anti tuberculosis treatment along with Anti-retroviral therapy from the ART center and Key informants are Medical Officer, counsellors and Staff nurse at ART Centre [King George Hospital]. Data were collected during a one month period (November) 2017.

A qualitative study incorporating personal interviews with the Beneficiaries, dots provider, Medical officers. Focus group discussions were conducted with the beneficiaries and personal call for beneficiaries who were not compliant for medication. Personal interviews were conducted on one to one interaction.

Focus Group discussion was conducted on different days to avoid repetition of beneficiaries. Two FGD s were conducted with a group of 8 members on two different days 2 weeks a part in a separate hall provided by the medical officer.

For selection of patients for Focus group discussion and Personal interviews, Purposeful sampling technique is employed. Health staff included Medical Officers, Staff nurse, counsellor. All these participants' selection was purposive sampling. For selection of patients via phone call (who were not compliant for medication) a Prior list of patients was obtained from the Data Manager. Patients were randomly selected using systemic sampling technique.

The data was collected by two investigators (trained community medicine teachers). A triangulation of Qualitative research methods like Focus group discussions, In-depth interviews, and Key informant interviews was performed at the end.

After data collection transcription was done later it was set to create categories and themes.

Sample size: A total of 5 in-depth interviews with the beneficiaries, 22 Beneficiaries interviewed on Phone call, two Focus group discussions were conducted till data saturation. For key informant interviews all were considered and they were 8 in number.

RESULTS

Personal interviews of key informants were conducted among 8 staff members were which included three male Medical Officers, one female Staff nurse, one male Dots plus supervisor, two female counsellors and one male counsellor.

To capture the beneficiaries' perceptions 22 members were interviewed through phone and two Focus Group Discussions were conducted.

Good programme to improve compliance

There was a common good opinion among Medical officers regarding 99Dots ,Supervisors and staff nurses .

Regarding the programme Dots plus supervisor replied like this

"*Excellent programme sir, it is very systematic one we can follow up patients so easily with the app downloaded in the mobile, every day once the patient had taken the tablet he/she has to give missed call by 3 pm and once called we will get a green symbol in our mobile app from the concerned person profile if they didn't it will come as red. If it is red for more than two consecutive days we will follow up the patient with the address available through dots provider .It is very easy for monitoring Medical officer and Superior personnel as daily census it will give*"

Of all the calls tried 4 cell numbers were switched off /Out of service area, 2 cell numbers were not responding.

During the phone calls, all Beneficiaries were receiving Monthly medications and none were short of medications at any point of time. All have received instructions prior to the starting of the medication. Majority 86 % were comfortable using mobile phones.

One of beneficiaries responded

" Yes I am taking tablets regularly , I have to give missed call daily after taking tablet , I do sometimes forgot to take daily medicine ,as I have to give a call it reminds me that I have to take tablet."

In FGD the groups were asked regarding giving missed call after taking a tablet , majority responded expressed that they would like using mobile phone and many hoped that such activity encourage them not to miss the dose.

One patient responded

"{Bagundi} Very nice, taking tablet later giving a call."

Problems and Challenges during implementation

In response to the programme implementation and challenges all three medical officers opined that any programme has its own challenges to be addressed in this context

One medical officer said that

"99 dots is good initiative but we have to wait how the compliance is maintained in true sense ,we don't know whether the patient is really taking the tablet{Showed some apprehension} or throwing out before giving a missed call ,again there must be a supervision "

In response to patients perception and problems faced by patients one female counsellor replied that

"yes, definitely especially few illiterate people are facing problem as they have to seek the help of neighborhood , other family members or shop person. They were happy (she smiles) as there is few visits by the health visitor to his/her home".

While in Focus group discussing, some respondents showed their unhappiness as of non-availability of phone.

One participant responded " {vadadam kastam } difficult to operate ,I don't know how to call but I manage by taking help of my neighbors"

Table 1: Key Informants Perception

Themes	Categories
Perceived as a Good programme.	1. No interruption of drug supply. 2. Able to maintain Adherence. 3. Protection of patient identity. 4. Quick feedback either by calling back or home visit if person misses doses on regular basis
Problems and Challenges faced during implementation of the programme.	1. Direct observation of the patient was missing whether the patient is really consuming the tablet or not 2.Problem in usage of mobile phones by illiterates

Table 2: Beneficiaries Perception

Themes	Categories
Perceived as Good programme.	1. It works as alarm for taking tablet. 2. Protection of their identity. 3. Immediate response from health staff in case of missed dose.
Problems faced during giving a missed call	1.Forgetfulness 2.Non-availability of phone 3.Non-availability of Network 4.Unable to operate on own

DISCUSSION

In the present study most of participants opinioned that mobile phone remainders were useful in TB treatment as there is a constant remainder either through cell phone or by health care personnel apart from keeping their identity closed due to lesser visits. In a study conducted by R Elangovan almost three-fourths of the patients see mobile phones as a useful communication medium in the treatment . The patients who own mobile phones are already using it to communicate with health workers. Around one-fourth thinks of it as a potential tool in TB treatment. [9]

In the present study majority had ownership of mobile phones very few 38 % has to depend on family members or neighboring households. Increasing the ownership of mobile phone can curtail this problem. In a study conducted by R Elangovan about two-thirds of the patients have their own mobile phones and use it regularly. Thirty-two percent of the patients do not have mobile phones, but they are using mobiles phones of family members and friends. [9]

In the present study few participants 24% had a problem with usage of mobile phone to give a missed call and some expressed dissatisfaction. Edifying the family members along with patients through specific training or practice sessions can overcome the present situation. In a study conducted by R Elangovan only 32% of patients can read and understand English Short Message Service (SMS) and the study concluded that if the mobile phones service providers offer SMS facility in Tamil language more patients can use this facility and pointed out the role of pictorial messages.[9]

Kaplan WA studied that health outcomes can be improved in developing countries with the power of mobile phones.[10] A study conducted by Andrew cross etal in India has observed that more than 90% of all doses were reported correctly using 99 DOTS and all patients were able to use the system. Further he added many qualitative interviews were conducted and they found that patients expressed gratitude for the implicit attention of a remote care provider.[11] Ramnath Subbaraman and Barclay E in their studies concluded Digital Adherence Technologies have the potential to transform TB care delivery by facilitating more patient-centric strategies for monitoring adherence and providing Health Care Providers with real-time data which enables patient triage.[12,13] The study from South India by Shet A presents an important consideration in the design of a mobile phone-based adherence intervention in India.[14] Similarly this type of studies has been conducted in some parts of the world like China, USA where they adopted electronic medication monitoring which showed an increase of adherence by 43 %.[15,16,17]

CONCLUSION

Key Informants and Beneficiaries perceived that 99DOTS as good novel approach which improves adherence to the treatment as the system is inbuilt to allow providers to focus on monitoring and follow up of patients with convenience. Availability of poor network in unreached places , SMS alert in English and considering the cost of phone for very poor people are the challenges in Implementation of 99DOTS.

RECOMMENDATIONS

Alerts and remainders which are presently in English language should also be provided in local language to enhance the effectivity. Illiterate patients be trained for using mobile features such as remainders, alerts at the initiation of the treatment.

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