

A Cross Sectional Study on Beliefs, Attitudes, Misconceptions and Knowledge of Patients & Community towards Leprosy in and Around Rural Areas of Guntur District

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Abstract: The Study entitled "A CROSS SECTIONAL STUDY ON BELIEFS, ATTITUDES, MISCONCEPTIONS AND KNOWLEDGE OF PATIENTS & COMMUNITY TOWARDS LEPROSY IN AND AROUND RURAL AREAS OF GUNTUR DISTRICT" was designed to assess the knowledge of Leprosy in and around rural areas of Guntur district, Andhra Pradesh, India, and also to evaluate the impact of an educational intervention carried out in this study. A suitable self-administered (KAP) Knowledge, attitude, practice survey questionnaire was designed and validated by this study and the study was conducted among the patients and community in that area. This cross sectional knowledge attitude practice (KAP) questionnaire study, of 6 month duration included a total of 207 participants out of 403. An interactive learning intercession was considered for all participants of pre-KAP questionnaire survey. The impact of effectiveness of educational intervention between the patients & community people was evaluated by means of post-KAP questionnaire survey. In our study a total of 207 participants responded and involved in the pre-KAP and post-KAP questionnaire survey. Participants involved in the study were 105 males and 102 females of both educated and uneducated. The overall response rates between pre intervention and post intervention was statistically significant ($P < 0.05$) shows effectiveness of educational intervention for improving awareness of leprosy among the participants. The study concluded that imparting the knowledge and awareness about leprosy among the patients and community people by means of educational intervention would bring up updated knowledge and preventing methods of leprosy.

Keywords: Hansen's disease, Patients & community people, KAP questionnaire

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I. Introduction

Leprosy is one of the earliest diseases known to everyone. However in society it still continues to be a serious public health issue in developing countries like India. Even after two decades of excellent advances in medical research, variable therapy regimens and ADR management practice for reactions and ulcers, the community people still shows social discrimination of patients and their families causing enormous social problems and stigma among patients. (1). Hence, the misconceptions and falls beliefs towards the leprosy is still going on in and rural areas of most states in south India. It probably originated in India and the first authentic description of leprosy comes from there in the year 600 BC (2). In China, leprosy was first described under the name "Da Feng" in Nei Jing, a medical classic written in the year 400 BC (3). Misconceptions regarding the "incurability" and "high infectiousness" of leprosy contribute to stigma(4).

Prior to the adoption of the resolution in 1985 to attain the elimination goal by the year 2000, there were 5.4 million registered cases of leprosy. Since then, there has been steady decline in cases with this number dropping to 1.7 million by 1994 (5). In early 2000, the global prevalence of leprosy had reduced significantly by 89 % to less than 1 case per 10,000 populations (6), highlighting the tremendous success of the WHO elimination program and even hinting at the possibility of total eradication of leprosy. Furthermore, nearly three quarters of the world's registered leprosy patients are in South- East Asia with India, Indonesia, Nepal and Myanmar accounting for 70 % of the cases in the region (7). Of the top six countries³ where leprosy is endemic, three are in Southeast Asia with India alone representing 64 % of the prevalence and 78 % of new cases detected worldwide (8).

So, by understanding the patients and community knowledge and attitude, we thought to start a research work to help them by eliminating the false beliefs and misconceptions with an awareness program.

Hence forth to consider the situations of ambiguous attitude among public and patients and to emphasize the awareness on leprosy, our team of Pharm.D Students realizes the importance of present survey and confirmed to initiate the study research.

II. Methodology

2.1 Study design: This was a cross sectional study in which information was obtained on the patients and community's knowledge, attitudes towards leprosy by the administration of a structured interviewer-administered questionnaire. The study was carried out December 2015 to May 2016.

2.2 Study site: The study was carried out in and around rural areas of Guntur district.

2.3 Study Population & Sampling: A sample of 207 subjects was drawn in order to yield 5 % accuracy at the 90% confidence level. Initially a total of 403 sample size was collected and estimated to be the sample size and due to non-response factor and communication errors it was settled down to 207. The estimated prevalence rate was derived from the study. . Since, knowledge of the cause of a disease is one of the most important factors in the control of the disease, the knowledge that 'leprosy was caused by germs' was taken as the prevalence rate for the purpose of calculating the sample size.

2.4 Study Criteria:

2.4.1. Inclusion Criteria: 1. Population who were 18 years or older of rural areas who are interested to participate. 2. Leprosy patients undergoing treatment in selected Leprosy care centers of Guntur district. A Self-administered questionnaire was prepared using information and thorough review from the literature survey and factors used in previous studies and it was validated by faculties in department of pharmacy practice and who expertise as a physician in leprosy care centers. It consists of 14 multiple choice questions. Two physicians with experience in government sectors as leprosisists were asked to evaluate the clarity, relevance and conciseness of items included in the questionnaire (limitations on questionnaire was a feedback which was rectified by eliminating). Statistically it was validated by using Cronbach's α value which reported a good measure of 0.71. The Questionnaire was categorized into 5 Sections. The questionnaire was prepared in English and Telugu using simple language, in order to be easily understood by illiterate respondents. It was then was pre-tested among a group of respondents similar to the study sample, in order to review the wording format and sequence of questions, ease of administration, repeatability, reliability, acceptance and time taken for administration. A pilot study was conducted to assess the feasibility and shortcomings of the study. Questionnaire was analyzed question wise and their percentage value was calculated by trained senior grade lecturer in the field of pharmacy practice. The interviews were carried out by the students of the project members. The interviewers were familiarized with the questionnaire and trained in the proper manner of questioning as well as being familiarized with the operational definitions in order to maintain the uniformity of interpretation and explanation for the benefit of the illiterate and non-English speaking respondents. To improve the response rate, the leprosy care units were visited on three separate occasions at different times of the day with at least one visit during the weekend. Non-respondents were not replaced for the purpose of the survey. A brief introduction about the purpose and nature of the study and assurance about confidentiality were explained to the respondents prior to the interview. The responses in the recording form were manually checked for errors and omission. Standardized codes were used to simplify the coding process and analysis. Data were analyzed using Statistical Package for Social Sciences (SPSS) software Version 11.0. Data analysis was done based on the objectives of the study. Data screening was done to determine associations or correlations between variables. Chi square test was used to compare differences in proportions for categorical variables and Chi square test for trend was used to compare trends for selected ordinal independent variables. p value less than 0.05 was considered to be statistically significant.

2.5. Study Variables

2.5.1. Outcome variable

The main outcome variable in this study was attitudes of the respondents towards those affected by leprosy. The responses to hypothetical statements on attitudes were framed on own in local language taking reference from a five point Likert scale ranging from "strongly disagree" to "strongly agree".

2.5.2 Independent variables

Two groups of independent variables were measured in relation to the attitudes towards leprosy.

(i) Socio-demographic characteristic of the respondents: The age, gender, religion, marital status, Education status was used as an indicator for identifying attitudes towards the leprosy patients from the respondents.

(ii) Mediating Variables: General misconceptions regarding leprosy, beliefs on causes of leprosy and beliefs regarding the transmission of leprosy were considered as mediating variables. The responses to questions under the knowledge and attitudes sections were analyzed individually and as aggregated scores.

2.6.Minimizing Errors

The steps taken to minimize errors in data collection and data entry were as follows:

1. The interviewers were familiarized with the questionnaire and adequately trained to complete the required responses to minimize interviewer bias.
2. A weekly assessment of completed questionnaires was carried out by a single coordinator and feedback provided to the interviewers.
3. Regular supervision of interviewers was carried out during the course of data collection.
4. Random checks on the accuracy of the responses were carried out by the coordinator by re-visiting the housing units of the respondents and reviewing the questionnaire with them.
5. Accuracy of data entry was assessed by a 10 % reassessment of data entry and cross checks with the hard copy of the data.

2.7Ethical Issues

The following ethical issues were considered in the design of the study:

1. The participants were briefed regarding the nature, objectives and method of study and their voluntary participation acquired.
2. Participants were reserved the right to withdraw from the study at any point of time.
3. Total confidentiality with regard to the identification of the participants and information volunteered was assured at all times during and after survey.

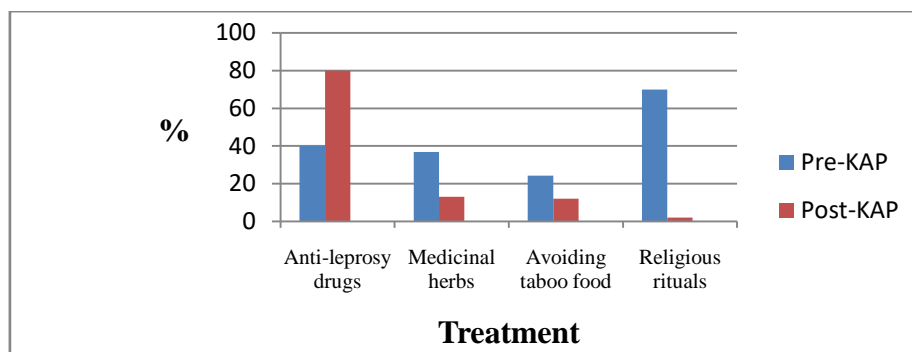
III. Results

During the 06 months study period, 403 subjects were taken into the study but only 207 subjects participated and responded to the study in the study site. The study population of 207 subjects includes both Males and Females. Demographic details of the participants involved in the study were categorized based on citizenship, Gender, religion, age, education, marital status and employment, the results of which were thoroughly analyzed and reported in below tables. The response rate of the sample population was given in table1. The overall response rate was 51.36 % (Table1).

Table1.Response Rate of The Sample Population.

RESPONSE	NO (403)	%
Participants	207	51.36
Refusals	91	22.58
Non contactable	60	14.88
Not eligible	42	10.42

The respondents interviewed, in that 40% reported that leprosy could be treated with anti-leprosy drugs recommended for the treatment of leprosy before educational intervention but after intervention it was reached to 80%. While 36.8 % also believed in medicinal herbs as a cure of leprosy, but after educational intervention reached to 13%, the role of avoiding taboo food and religious rituals in the treatment of leprosy before the intervention stated by 24.3 % and 70 % but after the intervention it is reached to 12% & 2% respectively. Graph3.Comparison of knowledge and beliefs of the respondents regarding the treatment of leprosy by pre and post KAP



The response of the study was evaluated by administering a standard KAP Questionnaire to all the 207 participants, to assess their Beliefs, Attitudes, Misconceptions and General Knowledge about Leprosy by comparative study between Pre-KAP & Post-KAP percentage of positive responses. All the values and percentage of positive and negative responses for the KAP questionnaire, (Pre-KAP & Post-KAP) comprising of 14 questions was evaluated and tabulated in Table. 2.

Table 2. Comparison Of Overall Positive % For Que1-14 Among The Respondents Regarding Beliefs, Attitudes, Misconceptions And General Knowledge About Leprosy By Awareness (Pre-Kap& Post-Kap) By Using Standard Questionnaire

Q .no	K A P Items	Pre – KAP positive responses NO = 207(%)	Post – KAP positive responses NO = 207(%)	P –value
		Before awareness	After awareness	
01.	What do you know about leprosy?	37(17.87%)	186(89.85%)	0.0312
02.	What are the symptoms of leprosy?	84(40.57%)	181(87.43%)	0.0538
03.	What causes leprosy?	103(49.75%)	198(95.65%)	0.0239
04.	How is leprosy transmitted	75(36.23%)	183(88.40%)	0.0881
05.	How can leprosy be treated?	25(12.07%)	200(96.61%)	0.189
06.	What would your reaction towards a person with leprosy?	89(42.99%)	193(93.23%)	0.356
07.	What would be your attitude towards leprosy patients?	85(41.06%)	192(92.75%)	0.055
08.	Have you ever seen a person with leprosy?	127(61.35%)	167(80.67%)	0.229
09.	Would you avoid a leprosy patient?	23(11.11%)	198(95.65%)	0.48
10.	Are you afraid he/she will spread the infection to you?	11(5.31%)	198(95.65%)	0.101
11.	Are you afraid other people will think you have leprosy too?	54(26.08%)	153(73.91%)	0.23
12.	Do you want to be associated with leprosy patient?	27(13.04%)	182(87.92%)	0.0895
13.	Do you believe all people should be treated equally as humans?	87(42.02%)	198(95.65%)	0.358
14.	Do you think you will be infected just by being near with a leprosy patient	26(12.56%)	191(92.27%)	0.146

The report of which was statistically evaluated with help of chi-square test by p-value ($p < 0.05$) From the above Results, it was analyzed that the response rate was statistically significant with a p- value of $p < 0.05$ for most of all the questions.

IV. Discussion

To the best of our knowledge, this is our first study in south India that evaluates the knowledge, attitude, beliefs and misconceptions about the Leprosy between the respondents (patients & community) in and around the rural areas of Guntur district, Andhra Pradesh, South India. The present study between the patients and community people showed an overall response rate of 90%, this figure can be regarded as extremely high, especially when compared with those of other studies on the same topic carried out between the patients and community. The response rate attained was within the accepted range for survey research. In order to maximize the response rate and minimize response bias, the questionnaire was administered personally to the participants by the facilitator.

The present study shows that participants (patients and normal community people) who attended the interactive educational intervention session on Beliefs, Attitudes, misconceptions and Knowledge regarding leprosy was much satisfied, and considered more effective and valuable.

This educational intervention program encouraged the participants to maintain self care for preventing transmission of leprosy and throw out the falls beliefs for their future perspective. The overall results of post-KAP questionnaire in our study were encouraging both the patients and community people and revealed that participants enhanced awareness on Leprosy after they had received an awareness program on Beliefs, Attitudes, Knowledge and misconceptions of Patients & Community towards leprosy.

In our study, one focus of educational intervention was to increase the participant's awareness about knowledge, attitude, beliefs and misconceptions of leprosy.

This was demonstrated by an increase in the positive response in pre and post-KAP Questions (1 to 14) of the standard KAP questionnaire. Evidently, the documented results of question 03, was 49.75% to 95.65% after the intervention, which strongly suggested that educational interventions are more important to the community to gain more knowledge, actual facts and preventing sources of the disease.

Question 05 from table 8 shows that 12.07% in pre-KAP to 96.61% in post-KAP suggests that there is great need to create awareness and promote the well trained governing authorities in the field of leprosy care.

Question 06 from table 8 shows that 42.99% in pre-KAP to 93.23% in post-KAP suggests that educational camps in the rural areas by the students and doctors reputedly to eliminate the falls beliefs and misconceptions regarding the disease there by educate them about actual facts

Question 07 from table 8 shows that 41.06% in pre-KAP to 92.75% in post-KAP suggests that there is great need to create awareness by the government authorities in the field of leprosy care service

Question 09 & 10 from table 8 framed to obtain the information about the general things between the patient and community towards the disease, where there was an increased positive response rates of 11.11% before to 95.65% and 5.31% to 95.65% respectively. The result strongly suggests that educating the community by means of providing actual facts is the only thing to completely eradicate the leprosy.

Question 13 and question 14 from table 8 shows that there was reduced exposure on actual facts about the disease, due to lack in availability of facilitators expertise in delivering educational sessions on leprosy. Our current study overcomes the above mentioned limitation to satisfactorily extent, with significant positive and statistical responses.

The study secondarily focus on improvising the knowledge on leprosy to both patients and community people, which was attained to the optimum best by comparing the positive responses of both pre-KAP and post-KAP values and it was statistically significant.

The study finally focuses on assessing the Knowledge, attitude, beliefs and misconceptions of the participants (patients & community people), which was attained to an optimum best with 90% overall, with an exceptional of statistical insignificant response for question 1-14, which strongly suggests that students and professionals in the field of leprosy care attend regularly to the continuing educational interventions.

V. Conclusion

In conclusion, the results of the present study demonstrate that an educational intervention can increase awareness on leprosy among the participants. This study has important limitation that, only about half of the respondents interviewed had satisfactory knowledge of leprosy. It is therefore essential to provide information regarding leprosy to increase awareness at community level. The National Leprosy Eradication Programmes in India has expressed an interest in utilizing the findings of the present study as a resource for background information on the knowledge, beliefs and attitudes of the local population which could be utilized for the planning and implementation of leprosy education programmes. The study will also be useful for the planning of rehabilitation and social reintegration programmes for leprosy patients. Future studies should address the needs and requirements of leprosy patients with respect to physical rehabilitation. In Future who wants to work and provide services in the leprosy care centers under the government and social service centers should have the basic knowledge regarding the Leprosy and its preventing sources. This should be equipped with necessary skills to perform awareness programs. Future physicians, pharmacists, nurses and other staff in the field of leprosy care should have the competence for early detection and monitor of the patients and make them aware by conducting educational camps for complete eradication of leprosy. National and official guidelines regarding the Leprosy and its related topics should be framed as soon as possible in co-operation with other stake holders involved in leprosy activities.

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