

Research Article**An interim report on knowledge, attitude and practice of non-communicable diseases among masses in Kadapa region of Andhra Pradesh, India**Poornachand Tadiseti^{1*}, Cheedella Hari Kumar²¹Department of Pharmaceutical Sciences, Jawaharlal Nehru Technological University, Ananthapuramu, Ananthapur - 515002, Andhra Pradesh, India²Vasavi institute of Pharmaceutical Sciences, Kadapa - 516247, Andhra Pradesh, India

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Abstract

Background: Non-Communicable Diseases (NCDs) were the major health care problems in developing countries like India and which were usually considered as the great concern to be addressed. **Objectives:** To monitor the Knowledge, Attitude and Practice (KAP) among subjects suffering from various NCDs in rural settings to urban settings and improve the medication adherence, dietary and life-style modifications. Also, bring awareness on cost minimization methods. **Methods:** This study was conducted prospectively by using WHO step wise questionnaire from March 2019 to March 2020. **Results and discussion:** A total of 512 subjects were recruited into the study and 74.21% (n = 380) of subjects were male and 25.78% (n = 132) subjects were female. The diabetic and hypertensive subjects of 42.96% (n = 220), diabetic and thyroid subjects of 7.03 % (n = 36) and other conditions constitute about 50 % (n = 256). It was also found that the overall impact of patient counseling was 83% (n = 425) and the awareness regarding dietary modifications were very poor. The educational status of the study population and the analysis includes the following, 70.70% (n = 362) of subjects were literates and 29.29% (n = 150) subjects were illiterates and it was evident that that 12.10% (n = 62) of subjects were on vegetarian diet and 87.89% (n = 450) subjects were on mixed diet. **Conclusion:** Based on the study results it was demonstrated that clinical pharmacy services play a pivotal role in improving the health status of patients.

Keywords: Medication adherence, co morbidities, cross sectional study, non communicable diseases

Introduction

The World Health Organization (2014), based on global status report on NCDs data, reported that NCDs account for more than 5.87 million or about 60% of all deaths in India. This is confirmed by the Global Burden of Disease study (2016), which found that Disability Adjusted Life Years (DALYs) due to NCDs have gradually exceeded those due to communicable, maternal, neonatal and nutritional diseases since 2003. The conduct of this sort of studies in rural areas shall act as the eye opener for the health care regulatory authorities because any sort of study in the rural settings shall clearly depict the crystal-clear picture of the real problems of the nation. In a study conducted by (Borra et al., 2015) had demonstrated the prevalence of hypertension and diabetes among the elderly people in the rural area of

Konaseema Institute of Medical Sciences and this sort of community based studies shall help to strengthen from the ground level, so that the healthy life span of the individuals can be enhanced by spreading the fragrance of blossoming flowers across the global village.

The conduct of this sort of comparative epidemiological research works regarding the common ailments that are the global burden like diabetes mellitus, hypertension shall help to bring a sea change in the attitude of the people towards the health, as in the current gravity of situation the status of health is really heartwarming due to rapid industrialization and urbanization. In a study conducted by (Rathod et al., 2014) demonstrated that a cross sectional study was carried out in three villages in the rural field practice area of a medical college in Pune, India. The burden of diabetes was present in the rural population studied. The associated known risk factors were also prevalent and showed strong relationship with diabetes. Diabetes mellitus erstwhile thought to be a disease of urban life appears to be equally prevalent in the rural setting. In a study conducted in

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Dehradun (Kandpal et al., 2013) demonstrated the importance of Geriatric health care services covering the most common NCDs and a study that was conducted in Kancheepuram district (Vijayakarthekeyan M et al., 2017) had highlighted importance of life style modification in various pathological conditions relating to NCDs. It was well understood that the NCDs were common in rural settings compared to urban settings and this aspect was clearly depicted in the study that was conducted in Haiti (DeGennaro Jr et al., 2017).

Methodology

This study was conducted prospectively from March 2019 to March 2020 by the help of a structured questionnaire and medical history of the subjects was collected with their consent. This pharmacoepidemiological study was conducted in selected villages and urban walking tracks of Kadapa district of Andhra Pradesh.

Study sample

Masses dwelling in the villages and urban areas meeting the inclusion criteria

Inclusion criteria

Adults ≥ 35 years and ≤ 65 years of both the genders were included in the study

Exclusion criteria

Age < 35 years and > 65 years were excluded

Pregnant and lactating mothers were excluded

Results

Eventually by assessing various parameters the following percentage of results among the study population were reported,

Gender wise distribution of subjects

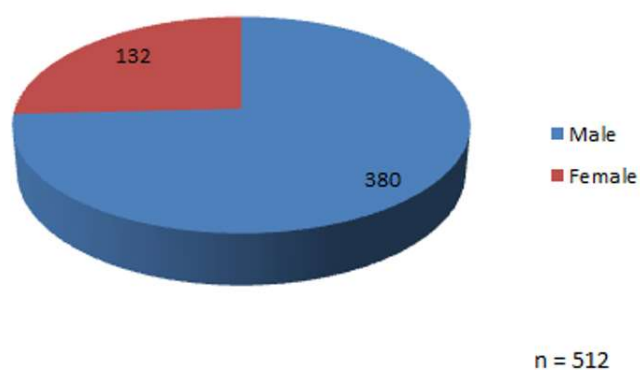


Figure 1. Gender wise distribution of subjects among the study population and this shows that 74.21% (n = 380) of subjects were male and 25.78% (n = 132) subjects were female

screened about 5000 population among three urban and three rural places in Kadapa district of Andhra Pradesh. Among 5000 population, 512 subjects met the criteria and among them 156 subjects were having only the history of diabetes, 220 subjects had history of diabetes and hypertension, 36 subjects had history of diabetes and thyroid, 65 subjects were having only the history of diabetes with co-morbidity of obesity and 35 subjects having the history of cardiovascular complications, respectively. Along with these parameters the impact of patient counseling was seen in 170 subjects and 380 subjects who were found to be adhered to their medications.

Discussion

Usually, pathological screening can differentiate an asymptomatic individual at high risk from one at low risk for NCDs and the nook and corner of this study were as follows:

A total of 512 subjects were recruited into the study population based on the inclusion criteria.

In present study 74.21% (n = 380) of subjects were male and 25.78% (n = 132) subjects were female (Figure 1) and the diabetic and hypertensive subjects constitute about 42.96% (n = 220), diabetic and thyroid subjects constitute 7.03 % (n = 36) and other parameters constitute about 50 % (n = 256) 62 male subjects (34.83%) falls into the category of diabetes and hypertension and was clearly demonstrated in figure 5. In this current study the overall impact of patient counseling among the six study sites found to be 83% (n = 425) and the counter part constitutes about 16.99% (n = 87) and this aspect was assessed by the help of patient information leaflets and was depicted in the figure 6.

In current study site it was demonstrated that the awareness

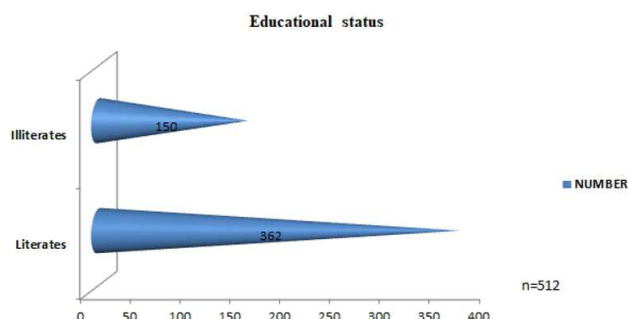


Figure 2. Educational status among the study population and this shows that 70.70% (n = 362) of subjects were literates and 29.29% (n = 150) subjects were illiterates

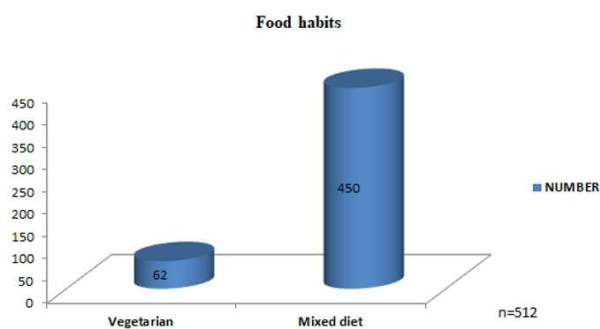


Figure 3. Food habits among the study population and this shows that 12.10% (n = 62) of subjects were on vegetarian diet and 87.89% (n = 450) subjects were on mixed diet

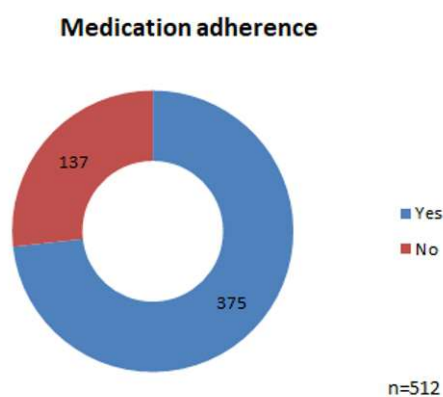


Figure 4. Medication of diabetes among the study population and this shows that 73.24% (n = 375) of subjects are well adhered to treatment regimen and 26.75% (n = 137) subjects were not adhered

regarding dietary modifications were very poor and the information regarding the diet to be followed was provided to subjects.

In present study the educational status of the study population and the analysis includes the following, 70.70% (n = 362) of subjects were literates and 29.29% (n = 150) subjects were illiterates and this aspect was explained in the figure 2.

In this study it was evident that that 12.10% (n = 62) of subjects were on vegetarian diet and 87.89% (n = 450) subjects were on mixed diet and the crystal clear picture regarding this was explained in figure 3 and the determination of this demographic details of food habits shall helps in determining the risk factors involved in various pathological conditions.

By analysing the data, it was clear that medication adherence showing a major impact on control of NCDs and this was possible through the process of patient counselling by the help of patient information leaflets and which was high compared to a study which demonstrated that life style modification was not present among diabetics (Agnes Moira Preethi D'Souza et al., 2015).

In current study it was observed that adherence to the medications in major subjects in study population at baseline. Literacy also

Table 1. NCDs among the study population

Types Of NCDs	Number
Diabetes and hypertension	220
Diabetes and thyroid	36
Diabetes and obesity	65
Diabetes	156
Cardiovascular complications	35

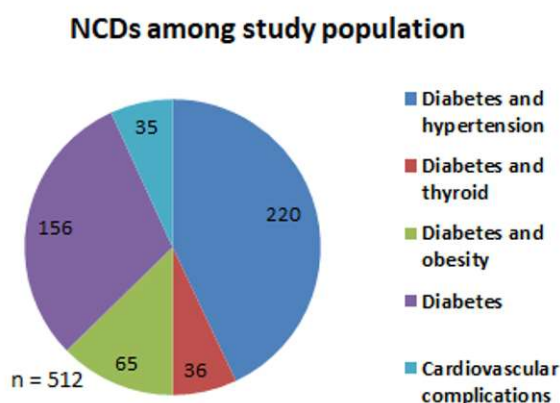


Figure 5. NCDs among the study population and this shows that diabetic and hypertensive subjects constitute about 42.96% (n = 220), diabetic and thyroid subjects constitute 7.03 % (n = 36) and other parameters constitute about 50 % (n = 256)

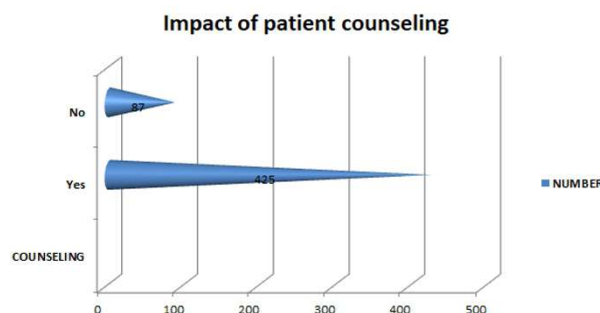


Figure 6. Impact of patient counseling among the study population shows that impact of patient counseling is 83% (n = 425) and the counter part constitutes about 16.99% (n = 87)

played an important role in improving adherence in the study subjects. Literates are more self-efficient towards medication adherence than illiterates.

In this study the occupation status of the subjects were also studied and it had demonstrated that 34.17% (n = 175) of subjects were daily wage labors, 15.62% (n = 80) of subjects were farmers, 18.55% (n = 95) of subjects were domestic engineers and 31.64% (n = 162) subjects belongs to various other occupations (Figure 7).

Table 2. Occupational status of study population

Types of Occupation	Number
Daily wage labor	175
Farmers	80
Domestic engineers	95
Others	162

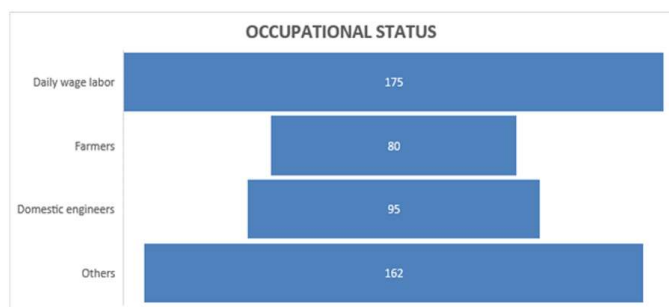


Figure 7. Occupational status among the study population and this shows that 34.17% (n = 175) of subjects were daily wage laborers, 15.62% (n = 80) of subjects were farmers, 18.55% (n = 95) of subjects were domestic engineers and 31.64% (n = 162) subjects belongs to various other occupations

Conclusion

Based on the study results it was demonstrated that clinical pharmacist play a major role in improving the pathological conditions that were commonly associated with NCDs and helps in reducing the mortality and morbidity. Along with this, the start of rural and urban NCDs clinics shall definitely pave a way in the long run for strengthening the healthy life span of the masses. Thus, this sort of novel research studies should be performed to have the crystal clear picture of the health status of the nation.

Limitations of the study

1. Small sample size and follow-up was found to be difficult.

Future implications

Planning to extend to other places and checking for all the possible ways to work with the government authorities, NGOs and other reputed organizations.

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Conflict of interest

None

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