

Original Research Article

A cross sectional study of knowledge, attitude and practice on cardiovascular disease and its risk factors among anganwadi workers of Cuddalore district

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ABSTRACT

Background: India is facing the dual burden of communicable and non communicable diseases. The field level workers like anganwadi workers (AWW) have important role in creating awareness among people in fighting non communicable diseases. This study was an attempt to assess the prevalence of knowledge, attitude and practice of cardiovascular diseases among anganwadi workers and also to estimate the prevalence of obesity and hypertension among these workers.

Methods: A total of 188 participants from 2 blocks of Cuddalore district were selected using multistage sampling technique. Each participant was given a pretested questionnaire to elicit their response and their height and weight was also measured. The Likert 3 scale was used to score their response. The statistical tool of Pearson correlation and Chi square was applied.

Results: The mean (SD) age of the participants was 42.22 (10.56) years. The mean (SD) knowledge, attitude and practice score of study participants were 31.34 (5.6), 21.88 (1.97) and 8.03 (2.59) respectively. The prevalence of obesity in study sample was 43.1% and hypertension was 27.66%. There was a significant association of increasing age and obesity with hypertension ($p < 0.05$). The study findings showed that there was a significant relationship between knowledge and attitude, attitude and practice ($p < 0.05$) but knowledge and practice association was not statistically significant.

Conclusions: Although knowledge and attitude of anganwadi workers of cardiovascular disease and its risk factors was adequate, the practice was found to be poor. The prevalence of obesity and hypertension was high.

Keywords: Cardiovascular disease, Anganwadi workers, Obesity, Knowledge, Attitude, Practice

INTRODUCTION

India is in the phase of epidemiological transition, facing the dual burden of communicable and non communicable diseases. The working group on disease burden for the 12th five year plan reported, nearly half of all mortality in India is due to non communicable diseases. Among the non communicable diseases (NCDs), cardiovascular

diseases accounts for 52% of all death, followed by chronic obstructive lung disease, cancer, diabetes and injuries.¹ Cardiovascular diseases contribute to mortality and disability adjusted life years lost (DALY). The various risk factors which contribute to high prevalence of NCD include tobacco and alcohol use, lack of physical activity, unhealthy diet, obesity, stress and environmental factors, which are modifiable factors and can be

controlled. Irrespective of the age, gender, profession, NCD tends to affect all stratum of the population. In order to reduce the burden of NCD especially cardiovascular diseases in the future, there is an urgent need to create awareness among people about these diseases and its risk factors and also supervise the mechanism of adoption of the healthy practices with the help of field level workers. Field workers like anganwadi workers (AWW), auxiliary nurse midwives (ANM) are considered to be the first contacts for the community towards their health problems.

Indian council of medical research funded DISHA study (diet and lifestyle interventions for hypertension risk reduction through anganwadi workers and accredited social health activists) through information, education, communication (IEC) tools provided in the anganwadi centres, further emphasis the significance of anganwadi workers in the fight against non communicable diseases.²

Therefore the study was done with the objective to ascertain the level of knowledge, attitude and practice of cardiovascular disease among anganwadi workers and to estimate the prevalence of hypertension and obesity among them.

METHODS

A community based cross sectional study was conducted among Anganwadi workers of Cuddalore district in 2014. The study population were selected from the two blocks of Cuddalore district using multistage cluster sampling method. Inclusion criteria were all anganwadi workers gave consent to participate for the study. Exclusion criteria included all anganwadi workers who were sick and not available at the time of study. Assuming 50% prevalence of knowledge on cardiovascular diseases among anganwadi workers with 95% confidence interval, 15% relative precision and non response rate of 10%, a sample size of 188 participants using the formula $n = \frac{4pq}{d^2}$ was obtained. After obtaining the written consent from the participants, a pretested semi structured questionnaire containing questions on socio demographic details of the individuals, history of physical morbidity in the past and questions to assess the knowledge, attitude and practice of cardiovascular diseases was administered to the study participants. The height, weight and blood pressure of the study sample was also measured using the standard tools. A total of 24 questions for knowledge, 12 questions for attitude and 8 questions for practice were used in the study to assess the anganwadi workers. A Likert 3 scale was used to record participants responses. A score of 2, 1, 0 was allotted to correct, neutral, wrong knowledge, attitude and practice responses respectively. The total score of the questionnaire was 88. It was categorised and valued as weak ($0 < \text{score} < 22$), moderate ($22 < \text{score} < 44$), good ($44 < \text{score} < 66$) and high/very good ($66 < \text{score} < 88$). The mean score and percentage of participants with good score was calculated. The weight of the participants was

measured with standard electronic weighing machine to nearest 500 gms. The height was measured with standard tape to the nearest 0.5 cms. Two blood pressure readings were taken five minutes apart and the average of the two readings was taken as the final reading. Data collection was done in the study area after obtaining permission from the institutional ethics committee. Data was entered into MS Excel. Statistical tool of Pearson's correlation and chi square were applied to find out the significance of association ($p < 0.05$) of knowledge, attitude and practice using SPSS 15 software. The Operational definition in the present study for hypertension was defined by a self reported physician diagnosis, the use of antihypertensive medication, or with a current Systolic blood pressure of ≥ 140 mm Hg or Diastolic blood pressure ≥ 90 mm Hg.³ Based on the criteria modified for Asian Indians, a person was considered to be obese if body mass index (BMI) ≥ 25 kg/m² and overweight when BMI ≥ 23 kg/m².⁴

RESULTS

One hundred and eighty eight anganwadi workers belonging to the two blocks of Cuddalore district participated in this study with a mean (SD) age of 42.2 (10.5) years. They represented 11.23% of the total anganwadi workers of the entire Cuddalore district.

In the questionnaire, the knowledge part consisted of twenty four questions on burden of disease, symptomatology and risk factors of CVD. The mean total knowledge score was calculated to be 31.34 (SD 5.6) against the maximum knowledge score of 48. Participant's knowledge score of CVD was high (very good score ≥ 36) in 26.1% and good (score ≥ 24) in 66.5% of study sample. The good knowledge was mostly seen with regard to responses to symptomatology of CVD. Nearly 95% of the study participants responded correctly to questions on palpitation and sweating as a symptom of CVD. Around 70% of the participants rightly mentioned that exercise reduces CVD risk. Just below one third of participants (30.3%) knew menopause increased the risk of CVD. Close to 80% of study sample had wrong knowledge that hypertension was fully curable.

The attitude part of the questionnaire consisted of questions on the perception of participants towards exercise, weight, diet etc. in reduction of CVD. The mean total attitude score was 21.88 (SD 1.9) as against a maximum score of 24. About ninety seven percent (97.3%) and 2.7% of study participants had very good and good attitude score respectively. More than 90% of the anganwadi workers had positive attitude to most of the responses with top scores obtained for increased green leafy vegetable consumptions (98.4%), blood pressure screening (97.3%), need for salt restriction (94.1%) to avoid CVD. Less than sixty five percent believed passive smoking (63.8%) and unrestricted diet (56.9%) increased risk of CVD.

Table 1: Socio-demographic details and risk factors for cardiovascular disease among the anganwadi workers.

Parameters	Frequency	Percentage (%)
Age in years (N=188)		
18-35	70	37.3
36-55	92	48.9
>55	26	13.8
Education (N=188)		
Middle school	3	1.6
High school	97	51.6
Higher secondary	57	30.3
Graduate	20	10.6
Postgraduate	11	5.9
Marital status (N=188)		
Unmarried	6	3.2
Married	162	86.2
Widow	16	8.5
Divorce	4	2.1
Attained menopause (N=188)		
Yes	89	47.3
No	99	52.7
History of Medical illness (N=188)		
Hypertension	28	14.9
Diabetes Mellitus	21	11.2
Cardiovascular disease	11	5.9
None	128	68
Family history of CVD (N=188)		
Yes	43	23
No	145	77
Type of diet (N=188)		
Vegetarian	63	33.5
Non-vegetarian	125	66.5

Table 2: Mean and Standard deviation of participants knowledge, attitude and practice.

Awareness	Mean	Standard deviation
Knowledge	31.34	5.6
Attitude	21.88	1.97
Practice	8.03	2.59

Table 3: Correlation between knowledge, attitude and practice about cardiovascular disease in anganwadi workers.

Awareness	Correlation coefficient (r)	P value	Inference
Knowledge and attitude	0.306	0.00	Significant
Knowledge and practice	0.104	0.15	Not significant
Attitude and practice	0.144	0.049	Significant

The practice segment of questionnaire consisted of the frequency of activities that the participant does with regard to CVD. The overall mean (SD) score for practice was found to be 8.03 (2.59). In comparison to the knowledge and attitude score, good practice score was seen in less than fifty percent (49.5%) of study participants. Forty one percent of the study population had below average practice score. About three fourth of the individuals (7.4%) avoided extra salt in diet. The majority of the good practice was seen in less than fifty percent of the individuals. Only 21.8% of the total participants avoided fried foods and just 8% of the participants practised daily exercise. Six (6.9%) have tried to decrease their stress.

The awareness score was obtained by summation of mean score of KAP. The overall awareness (mean score 61.25) of cardiovascular disease among anganwadi workers was found to be good (44<score<66) in 70.2% of sample population. Nearly thirty percent (28.7%) of the subjects had high awareness of cardiovascular disease and its risk factors.

DISCUSSION

The present study was a community based study conducted to estimate the level of knowledge, know about the attitude and practice towards cardiovascular disease prevention and to estimate the prevalence of hypertension and obesity among anganwadi workers of Cuddalore district.

From the study it was found that overall good knowledge level of CVD was seen in 66.5 percent of the participants. The overall mean score for the knowledge was 31.34 (65.3%) which was similar to the study done by Yayha et al in Malaysian women.⁵ The reason could probably due to the nature of their work which was more towards children, adolescent and pregnant woman health and nutrition than adult diseases. Although the knowledge of CVD was adequate among study population but there was no significant difference in knowledge seen between age groups, marital status, level of education, dietary pattern, different weight category and years of employment. The reason for this could probably be due to the lack of periodic training and workshop on CVD recognition and management. One fourth of the total participants recognised age as a risk factor for cardiovascular diseases. Majority of the participants did not know that family history of CVD, attainment of menopause, presence of diabetes mellitus and chronic renal failure as a potential risk factor for onset of cardiovascular diseases. These findings were similar to the study done by Yayha et al.⁵ The reason probably could be that the anganwadi workers may not have been told about the significance of these risk factors to cause cardiovascular diseases unlike other common risk factors like smoking, obesity etc. With regards to knowledge on symptoms of cardiovascular diseases, most of workers recognised the typical symptoms of heart ailments, but failed to recognise the atypical symptoms like epigastric pain, headache, nausea and vomiting.

Table 4: Cross tabulation on the association of hypertension with age and obesity (N=188).

Parameters	Prevalence of hypertension			χ^2	P value	Inference
	Yes	No	Total			
Age (years)	(n=52)	(n=136)	(N=188)	23.99	0.00	Significant
18-35	6	64	70			
36-55	32	60	92			
>55	14	12	26			
Weight	(n=52)	(n=136)	(N=188)	16.33	0.00	Significant
Normal	10	66	76			
Overweight	8	23	31			
Obesity	34	47	81			

The findings of the study with regard to the attitude of anganwadi workers towards CVD showed that the overall mean score for the attitude was 21.88 (91.2%) which was found to be higher than the study done on Malaysian woman by Yayha et al.⁵ The reason for the difference probably could be due to the regular interaction of anganwadi workers with the health care providers in their centre. The study revealed that the high attitude score towards CVD was seen 97.3 percent of the participants. Majority of the participants agreed that daily exercise, intake of green leafy vegetables, avoiding excess salt and fat in diet was necessary to prevent CVD. The attitude towards restriction in diets and passive smoking in prevention of CVD was found to be considerably poor. This could probably due to the poor awareness of quality and quantity of food intake that could lead on to CVD and also the lack of understanding of passive smoking that could cause CVD.

Regarding response to the practice questions, the study showed that very few of the participants had good practice overall. The total mean score for good practice was 8.03 (50.2%) which was comparable to the study done on urban community of Nepal by Vaidya et al.⁶ In the study, the good practice score towards prevention of CVD was seen in less 30 percent (29.5 percent) of the total participants. Poor practice regarding regular health check up, daily exercise as well as stress management may be due to lack of awareness and importance for need of it. Although the good practice of avoiding added salt in diet was present in three-fourth of the participants, but only one-fifth of the participants (21.8 percent) avoided frequent intake of fried foods.

It was seen that the knowledge on risk factors of CVD like daily exercise, passive smoking and high blood pressure was adequate in lesser number of individuals. But the attitudes towards the same risk factors were higher when compared to the knowledge. The reasons probably could be due to the level of education attained by the anganwadi workers and also due to the socio-cultural factors existing in their community which could have an influence on their attitude.

The attitude score of the anganwadi workers towards the risk factors of CVD like daily exercise, passive smoking and blood pressure was high. But the practice on prevention of hypertension and its risk factors of poor. The conversion of good attitude to effective practice was lacking in the study population. The reason may be due to the lack of motivation, demand of the job, female sex, increased responsibility at home and lack of time.

The current study estimated the prevalence of obesity ($\text{BMI} \geq 25 \text{ kg/m}^2$) to be 43.1% among the Anganwadi workers, which was found to be more than the National family health survey (NFHS 3) estimate of 24.4% obesity in woman population in Tamil Nadu. The estimate for obesity was consistent with the study done by Kaur et al in rural women in Tamil Nadu where the study found a prevalence of 38.2% using the Asian cut off values for BMI.⁷

The current study found the prevalence of hypertension among anganwadi workers to be 27.7% which was similar to the study done by Bansal et al in women of rural villages of Uttarakhand which was found to be 27.8%.⁸ Nearly 50 percent of the hypertensive were not aware that they had hypertension.

CONCLUSION

The present study was a community based KAP study of cardiovascular diseases among anganwadi workers using a self administered questionnaire. The study finally revealed that majority of the anganwadi workers had good knowledge and positive attitude towards CVD awareness, but scored poorly when came to practising what they knew. Also the prevalence of hypertension and obesity among anganwadi workers was found to be high.

Limitations

There is a need to do the study on a larger sample size to get an accurate estimate of knowledge, attitude and practice of cardiovascular diseases among anganwadi workers.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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