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A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge regarding Prevention of Lifestyle Modification using 9 to 1 Rule among Male Adults at selected Community Area of City: A Pre-Experimental Study

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Abstract: ***Lifestyle diseases such as hypertension, diabetes, and cardiovascular diseases are increasing due to poor health choices, including physical inactivity, poor diet, and stress. Teaching interventions are crucial for behavior change. The 9 to 1 Rule might be a structured approach to encourage positive lifestyle modifications. In India, non-communicable illnesses and injuries are responsible for 52% of fatalities. According to the World Health Organization, non-communicable diseases account for nearly three-fourths of global deaths each year. A significant proportion of these deaths occur prematurely among adults aged 30-69 years, especially in low- and middle-income countries. Objectives: To assess the effectiveness of planned teaching programme on knowledge regarding level of lifestyle modification using 9 to 1 rule among male adults at selected community area of city, to evaluate the existing knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city, to evaluate the effectiveness of planned teaching on knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city and to find the association between the post-test level of knowledge regarding lifestyle modification using 9 to 1 rule in male adults with their selected demographic variables. Materials and Methods: A pre-experimental one-group pretest and post-test resign design were used. 84 male adults of selected community area of the city were selected. Non-Probability convenient sampling technique was used to select the sample. The sample size was calculated by using Cochran's sample size formula. Quantitative research design was used. The data were collected from selected community area of the city, using socio demographic data sheet and structured knowledge questionnaires. Consent was obtained from participant in the study. Results: In this study, majority of the subjects 34.5% were from the age group of 41 – 45 years, majority of the subjects 33.3% were belongs to Hindu religion, majority of the subjects 45.2% were study up to higher secondary education level, majority of the subjects 38.1% having 20001 – 25000 income, majority of the subjects 38.1% were work as private worker, majority of the subjects 28.6% having tobacco chewing habits, majority of the subjects 52.4% having normal sleeping pattern, majority of the subjects 73.8% having no any night dwellers, majority of the subjects 86.9% were not doing any physical activity and majority of the subjects 56% were not know about lifestyle modification and 9 to 1 rule. In pre-test, majority 51.2% of subjects had good level of knowledge score, 42.9% had average level of knowledge score, 5.9% had very good level of knowledge score and 0% had poor and excellent level of knowledge score. Mean knowledge score in pre-test of the subjects was 13.61 ± 3.271. Minimum knowledge score in pre-test was 07 and maximum Knowledge score in pre-test was 21. While in post-test, majority 48.8% of subjects had excellent level of knowledge score, 42.9% had very good level of knowledge score, 8.3% had good level of knowledge score and 0% had poor and average level of knowledge score. Mean knowledge score in post-test of the subjects was 23.55 ± 3.141. Minimum knowledge score in post-test was 16 and maximum Knowledge score in post-test was 29. Conclusion: The written prepared material by the investigator in the form of planned teaching helped the male adults had an average level of knowledge regarding prevention of lifestyle modification using 9 to 1 rule had improved to a great extent after the dissemination of planned teaching programme which was revealed in the post test. This result shows the imperative need to utilize the planned teaching programme in the improvement of knowledge regarding prevention of lifestyle modification using 9 to 1 rule among male adults of selected community area of city and it will improve the quality of life by preventing the incidence of lifestyle modification among male adults.***

Keywords: assess, planned teaching, prevention, lifestyle, modification, 9 to 1 rule, male adults, community

1. Introduction

Lifestyle modification refers to the process of making long-term changes to daily habits and behaviours to improve overall health and well-being. These changes encompass various aspects of life, including diet, physical activity, sleep patterns, stress management, and other health-related behaviours. Lifestyle modifications are crucial for preventing and managing chronic diseases such as obesity, diabetes, hypertension, cardiovascular diseases, and mental health disorders.[1]

Each year, nearly 15 million people die from a non-communicable disease and are usually between the ages of 30 and 69 years; over 85% of these "premature" deaths occur in either low-income or middle-income countries. Cardiovascular diseases account for most non communicable deaths, or 17.9 million people annually, followed by cancers (9.0 million), respiratory diseases (3.9million), and diabetes (1.6 million). These 4 groups of diseases account for over 80% of all premature NCD deaths.[2]

The 9:1 Rule is a holistic approach to health and well-being, emphasizing the importance of various daily habits. It suggests that 90% of your health outcomes are influenced by consistent daily practices, while the remaining 10% allows for flexibility and indulgence. The rule is structured around nine key habits: walk 9,000 steps daily, drink 8 glasses of water, sleep 7–8 hours, meditate for 6 minutes, consume 5 servings of fruits and vegetables, take 4 rest breaks, eat 3 balanced meals, maintain a 2-hour gap between dinner and bedtime, engage in 1 enjoyable physical activity like swimming, running, or dancing.[3]

According to the World Health Organization, non-communicable diseases account for nearly three-fourths of global deaths each year. Cardiovascular diseases remain the leading cause, followed by cancers, chronic respiratory diseases, and diabetes. A significant proportion of these deaths occur prematurely among adults aged 30-69 years, especially in low- and middle-income countries.[4]

According to the currently available research, the top causes of illness, disability, and death in India include hypertension, cardiovascular diseases, cancer, diabetes, lung disease, chronic renal disease, trauma, stroke, and chronic obstructive and mental disorders. In India, non-communicable illnesses and injuries are responsible for 52% of fatalities. The burden of non-communicable diseases and the resultant mortality are predicted to increase if the government does not take significant steps to prevent and control NCDs and related risk factors. Since 1980s, the Government of India has assisted the states through several vertical programs to prevent and control NCDs.[5]

The Global Burden of Disease 2019 (GBD 2019) estimates that 19% of global deaths are attributed to elevated blood pressure. India, with a population of over 1.4 billion, is facing a serious challenge in combating this silent killer. Hypertension, a major non-communicable disease, is responsible for a significant number of global deaths, including approximately 17.9 million yearly. People with high cholesterol have increased from 16% in 2020 to 18% in 2022.[6]

The primary objective of that study was to assess the effectiveness of planned teaching programme on knowledge regarding level of lifestyle modification using 9 to 1 rule among male adults at selected community area of city. The secondary objectives of that study were to evaluate the existing knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city, to evaluate the effectiveness of planned teaching on knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city and to find the association between the post-test level of knowledge regarding lifestyle modification using 9 to 1 rule in male adults with their selected demographic variables.

2. Material and Methods

Quantitative research design was used. A pre-experimental one-group pretest and post-test research design were used. 84 male adults were participated in this study. The sample size was calculated by using Cochran's sample size formula. Non-Probability convenient sampling technique was used to select the sample. The data were collected from selected community area of the city, using socio demographic data sheet and structured knowledge questionnaires. The knowledge questionnaire were categories in two parts. Information Written Consent was obtained from participant in the study. Ethical considerations will be obtained from the institutional ethics committee. Prior permission will be obtained from the head of community area from selected community area.

Criteria for selection of samples

Inclusion Criteria

In that inclusive criteria the population does have the male adults who were:

- Living of selected community area of city.
- Willing to participate in the study.
- Read and write Marathi and English.
- Present during data collection.
- Belongs to age group between 25 to 49 years.

Exclusion Criteria

In that exclusive criteria the population does have the male adults who were:

- Health care provider.
- Knows about lifestyle modifications.

Tools

Section I: Demographic Data

It consists of demographic variables to collect the identification data on the male adults in a selected community area regarding the subject like age in years, religion, educational qualification, monthly income, occupation, substance use habits, sleeping pattern, night dwellers, do any physical activity and whether you know about lifestyle modification and 9 to 1 rule.

Section II: Structured knowledge questionnaire

It consists of 30 multiple choice questions to evaluate the knowledge regarding prevention of lifestyle modification using 9 to 1 rule among male adults at selected community area of city. In that 8 questions were from lifestyle modification and remaining 22 questions were from knowledge regarding 9 to 1 rule.

Data Collection

The investigator obtains permission from selected community area of the city in Maharashtra to conduct the pilot study and also main study. The pilot study was conducted from 1st November 2025 to 7th November 2025 with taken 10 samples and then main study was conducted from date 21st December 2025 to 27th December 2025. The scoring techniques are distributed according to poor, average, good, very good and excellent.

Statistical Analysis

Statistical analysis was done using SPSS Version 26.0 (SPSS Inc., Chicago, Illinois, USA). Continuous variables were expressed as Mean $\pm$ SD and categorical variables were summarized as percentages. Student paired "t" test was used and also chi square test was used for association. The

paired t test whichever appropriate was used for comparison of categorical variables. Graphically the data was presented by bar diagrams. P-value of less than 0.05 was considered statistically significant. The reliability of that tool was 0.8267 by using Kuder and Richardson Formula 20 method of reliability and hence the tools are reliable and valid.

3. Results

Results are divided into four major sections:

Section A:
This section deals with percentage wise distribution of subjects in relation to their demographic variables as shown in table no. 1

Section B:
This section has dealt with the assessment of pre-test and post-test knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city. The levels of knowledge were categorized under categories: poor, average, good, very good and excellent. In pre-test, majority 51.2% of subjects had good level of knowledge score, 42.9% had average level of knowledge score, 5.9% had very good level of knowledge score and 0% had poor and excellent level of knowledge score. Mean knowledge score in pre-test of the subjects was 13.61 $\pm$ 3.271. Minimum knowledge score in pre-test was 07 and maximum Knowledge score in pre-test was 21. While in post-test, majority 48.8% of subjects had excellent level of knowledge score, 42.9% had very good level of knowledge score, 8.3% had good level of knowledge score and 0% had poor and average level of knowledge score. Mean knowledge score in post-test of the subjects was 23.55 $\pm$ 3.141. Minimum knowledge score in post-test was 16 and maximum Knowledge score in post-test was 29.

Section C:
This section has dealt with the effectiveness of planned teaching programme about knowledge regarding prevention of Lifestyle Modification using 9 to 1 Rule among male adults at selected community area of city. The hypothesis was tested statistically, the level of competency during the pre-test and post-test were compared to prove effectiveness of planned teaching programme on significance of difference at 5% level of significance was tested with student's paired 't' test and tabulated 't' value was compared with calculated 't' value. Also, the calculated 'p' values were compared with acceptable 'p' value i.e. 0.05 level of significance.

The statistical Student's paired 't' test was applied at 5% level of significance. The tabulated value for n = 84-1 i.e. 83 Degree of freedom was 83 is that 1.990. The calculated value i.e. 18.745 was much higher than the tabulated value at 5% level of significance. For overall knowledge score of subjects which was statically acceptable level of significance as shown in table no. 2

Section D:
This section has dealt with the association of post-test knowledge score regarding prevention of lifestyle modification using 9 to 1 rule among male adults at selected community area of city with selected demographic variables.

Analysis reveals that there is no association of knowledge score was found in prevention of lifestyle modification using 9 to 1 rule among male adults at selected community area of city with demographic variables like age in years, religion, educational qualification, monthly income, occupation, substance use habits, sleeping pattern, night dwellers, do any physical activity and whether you know about lifestyle modification and 9 to 1 rule.

4. Conclusion

After the detailed analysis, this study leads to the following conclusion that, the study population was aware of lifestyle modification using 9 to 1 rule, but not having adequate knowledge regarding prevention of lifestyle modification using 9 to 1 rule. Most of the male adults had an average level of knowledge regarding prevention of lifestyle modification using 9 to 1 rule and had improved to a great extent after the dissemination of planned teaching programme which was revealed in the post test. This result shows the imperative need to utilize the planned teaching programme in the improvement of knowledge regarding prevention of lifestyle modification using 9 to 1 rule among male adults of selected community area of city and it will improve the quality of life by preventing the incidence of lifestyle modification among male adults.

Similar study was conducted by Bhat G, Ireland A, Shah N, at PHC Of Kheda District, 2025. After the detailed analysis knowledge and attitude of the male adults regrding administration of planned teaching programme had exists significance effective. The pre-test knowledge range was 7.27, mean was 14.74 and the post-test knowledge range was 21.30, mean was 26.12. Paired t test was used to find significant difference before and after plan teaching program the maximum score was 30, mean was 11.38, standard deviation was 2.47.[7]

Similar study also was conducted by Prajapati R, Macwan AJ at Rural Communities, in Maharashtra, Kapur Karad, India 2024. After the conclusion the participants had adequate knowledge about lifestyle disorders, but they lacked positive attitude and healthy practices towards lifestyle disorders. 34% participants had good knowledge regarding lifestyle disorders, 18% participants had positive attitude towards lifestyle disorders and only 13% participants were actually practicing healthy habits.[8]

Conflict of Interest
The authors have no conflict of interest.

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Table 1: Distribution of subjects in relation to their demographic variables

Demographic Variables	Frequency (f)	Percentage (%)
Age in Years		
25 – 30 Years	14	16.7
31 – 35 Years	15	17.8
36 – 40 Years	24	28.6
41 – 45 Years	29	34.5
46 – 50 Years	02	2.4
Religion		
Hindu	28	33.3
Muslim	14	16.7
Buddhist	25	29.8
Christian	15	17.9
Others	02	2.3
Educational Qualification		
Primary Education	03	3.6
Secondary Education	22	26.2
Higher Secondary Education	38	45.2
Graduate and above	21	25
Monthly Income		
10000 – 15000	13	15.5
15001 – 20000	30	35.7
20001 – 25000	32	38.1
25001 and above	09	10.7
Occupation		
Labour	17	20.2
Private Worker	32	38.1
Government Worker	10	11.9
Business	25	29.8
Smoking Use Habits		
Smoking	23	27.4
Alcohol	17	20.2
Tobacco Chewing	24	28.6
No any Bad Habits	20	23.8
Sleeping Habits		
6 – 7 Hours	12	14.3
7 – 8 Hours	16	19
8 – 9 Hours	12	14.3
Normal	44	52.4
Night Dwellers		
Yes	22	26.2
No	62	73.8
Do any Physical Activity		
Yes	11	13.1
No	73	86.9
Whether you know about Lifestyle Modification and 9 to 1 Rule		
Yes	37	44
No	47	56

Table 2: Significance of difference between knowledge scores in pre-test and post-test

Overall	Mean	SD	Mean Difference	t-value	p-value
Pre	13.61	3.271	9.94 + 4.860	18.745	0.0001
Post	23.55	3.141			S. P<0.05
P<0.05 level				S=Significant	