

EFFECTIVENESS OF BEHAVIOR CHANGE COMMUNICATION ON KNOWLEDGE
AND PRACTICES REGARDING LIFESTYLE DISORDERS AMONG ADULTS IN A
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ABSTRACT

Lifestyle disorders are a growing public health concern, particularly in rural populations. The Global Burden of Disease Study data show that dietary habits, tobacco and alcohol use, blood sugar, obesity, and low physical activity are major metabolic and behavioral risk factors that lead to non-communicable diseases (lifestyle disorders) in India. Lifestyle behaviors are the most crucial determinant and lie at the root of many chronic diseases, causing higher disease burden and premature mortality worldwide. **Objectives:** To assess the effectiveness of Behavior Change Communication on knowledge and practice regarding lifestyle disorders among adults in the selected village, Erode. **Methods:** A quantitative research approach with a pre-experimental one-group pretest–posttest design was adopted. A total of 50 adults were selected using convenience sampling. Data were collected using a structured questionnaire to assess knowledge and a checklist to assess practice. Following the pretest, participants received a BCC intervention comprising group health education and role play. The posttest was conducted using the same tools. Data were analyzed using descriptive and inferential statistics, including the paired *t*-test. **Results:** The findings revealed that the pretest knowledge and practice levels were inadequate to moderate among participants. After the BCC intervention, there was a significant improvement in both knowledge scores. The calculated paired *t* value (2.54) was higher than the table value (2.00) at the 0.05 level of significance, indicating that the intervention was effective. **Conclusion:** The study concluded that Behavior Change Communication is an effective intervention to enhance knowledge and promote healthy practices related to lifestyle disorders. Regular implementation of such programs can help in reducing the risk of lifestyle diseases in rural communities.

KEYWORDS: Behavior Change Communication, Lifestyle Disorders, Knowledge, Practice, Adults.**INTRODUCTION**

Lifestyle modification disorders, also known as non-communicable diseases (NCD), cause about 41 million deaths annually, accounting for nearly 74% of all deaths worldwide, in the year 2023, according to the World Health Organization. Cardiovascular diseases are the leading cause, followed by cancers, chronic respiratory diseases and diabetes. Around 18 million premature deaths occur before the age of 70, especially in low and middle- income countries. Globally, about 1.3 billion adults have hypertension, and more than 537 million people live with diabetes. Additionally, physical

inactivity, unhealthy diet, tobacco diet and obesity are major lifestyle risk factors contributing to the increasing global burden of these disorders. In India, lifestyle modification disorders account for approximately 66% of total deaths, making them the leading cause of mortality as reported by the World Health Organization. (2023) India has nearly 77 million adults living with diabetes, making it one of the countries with the highest number of diabetic patients. About 220 million Indians suffer from hypertension, affecting nearly one in four adults. About 220 million Indians suffer from hypertension, affecting nearly one in four adults. Obesity and sedentary lifestyle

are rapidly increasing due to urbanization, unhealthy diet and reduced physical activity.

Lifestyle modification studies explore how changes in daily habits such as diet and exercise can prevent and manage disease. These studies often focus on interventions like nutritional changes, increased physical activity and stress management techniques to improve overall health and wellbeing.

Behavioural change communication is a strategic approach that influences positive health behaviour by raising awareness, enhancing knowledge, and motivating individuals to adopt healthier lifestyles. It includes targeted messages delivered through interpersonal communication, community outreach and mass media, aimed at empowering people to make informed choice regarding their health.

Papachristou et al. (2024) conducted an umbrella review titled “Behavior Change Techniques in Lifestyle Interventions for Non-Communicable Diseases.” The review analyzed multiple systematic reviews focusing on adults with lifestyle disorders globally. The study identified goal setting, self-monitoring, feedback, and social support as the most effective communication strategies in promoting lifestyle modification. The findings emphasized that structured BCC interventions improve both knowledge and long-term health behaviors.

In many communities, a gap still exists in understanding the importance of preventive measures for lifestyle disorders. Hence, assessing the knowledge and effectiveness of behavior change communication strategies among adults becomes essential to designing more impactful public health interventions. Although

lifestyle disorders are increasing in rural India, evidence regarding the effectiveness of structured Behavior Change Communication interventions among rural adults remains limited. Therefore, the present study was undertaken. This study aims to evaluate the effectiveness of behavior change and communication among adults in selected community areas to prevent lifestyle disorders.

METHODOLOGY

The study adopted a quantitative research approach with a pre-experimental one-group pretest–posttest design. The samples were selected using a convenience sampling technique, and a total of 50 adults who met the inclusion criteria were recruited for the study. Before data collection, informed consent was obtained from all participants. Baseline data were collected through interviews to obtain demographic variables such as age, gender, education, occupation, and economic status. The level of knowledge regarding lifestyle disorders was assessed using a structured questionnaire, while the level of practice was evaluated using a checklist.

Immediately following the pretest, the participants received the Behavior Change Communication (BCC) intervention, which included group health education and role play focusing on lifestyle disorders and their prevention. The intervention session consisted of 30 minutes of role play followed by 40 minutes of group health education. Following the intervention, a posttest was conducted using the same tools to assess changes in knowledge and practice. A pilot study was carried out to assess the feasibility of the study and to estimate the time required for data collection. The risk–benefit ratio was evaluated and found to be acceptable. Confidentiality of the participants’ data was strictly maintained throughout the study.

RESULTS

Table 1: Distribution of adults based on their demographic variables.

S.NO	DEMOGRAPHIC DATA	EXPERIMENTAL GROUP	
		FREQUENCY	PERCENTAGE
1.	AGE IN YRS		
	a). 20-29	4	8
	b). 30-39	11	22
	c). 40-49	19	38
	d). 50-59	16	32
2.	SEX.		
	a). Male	16	32
	b). Female	34	68
3.	EDUCATIONAL STATUS.		
	a). Illiterate	26	52
	b). literate	24	48
4.	OCCUPATION		
	a).Coolie	27	54
	b).Farmer	05	10
	c).Astrology	07	14
	d).Others	11	22
5.	SOCIO ECONOMIC STATUS		
	a).Above poverty line	06	12
	b).Below poverty line	44	88

Table No. 1 depicts that distribution of adults, according to their age, the majority (38%) belonged to the 40–49-year age group. and more than 68% of the population is

female. The maximum number of the samples 52% is illiterate, more than 54% is coolie workers, majority of the population 88% is below the poverty line.

Table No. 2: The pretest and posttest levels of knowledge on lifestyle disorders among adults.

	LEVEL OF KNOWLEDGE					
	POOR KNOWLEDGE		MODERATE KNOWLEDGE		ADEQUATE KNOWLEDGE	
	NO	%	NO	%	NO	%
PRE TEST	40	80%	09	18%	01	02%
POST TEST	01	02%	31	62%	18	36%

Table 2 illustrates the distribution of adults according to their level of knowledge regarding lifestyle disorders before and after the Behavior Change Communication (BCC) intervention. In the pretest, the majority of the participants (40; 80%) had poor knowledge, while 9 (18%) had moderate knowledge and only 1 (2%) had adequate knowledge regarding lifestyle disorders. Following the BCC intervention, a marked improvement

in knowledge was observed. In the posttest, only 1 participant (2%) remained in the poor knowledge category, whereas 31 participants (62%) had moderate knowledge and 18 participants (36%) achieved adequate knowledge. These findings indicate that the Behavior Change Communication intervention was effective in improving the participants' knowledge regarding lifestyle disorders.

Table No. 3: Level of Practice regarding lifestyle disorders.

S.NO	PRACTICE QUESTION	YES	%	NO	%
1.	Food habit				
	A). Do you eat food three times a day?	46	92%	04	08%
	B). Do you eat the food on time?	48	96%	02	04%
	C). Do you eat the homemade foods?	45	90%	05	10%
2.	Sleep				
	A).Do you sleeps 8 hours at night daily?	32	64%	18	36%
	B).Do you sleep during day time?	20	40%	30	60%
	C).Do you get deep sleep?	36	72%	14	28%
3.	Screen time				
	A).Do you watch TV before bed?	06	12%	44	88%
4.	Smoking habits				
	A).Do you smoke ?	30	60%	20	40%
	B).Do you feel bad when you don't smoke?	30	60%	20	40%
	C).Do you smoke in the presence of others?	13	26%	37	74%
5.	Alcohol habits				
	A). Do you drink alcohol?	40	80%	10	20%
	B). Do you put any efforts to control or stop alcoholism?	10	20%	40	80%
	C).Do you take alcohol early morning when you get up?	20	40%	30	60%
6.	Tobacco				
	A).Do you use tobacco?	10	20%	40	80%
	B).Are you any of substance abuse like hons, coolips and kanja?	05	10%	45	90%
7.	Exercise				
	A).Will you do exercise daily?	02	04%	48	96%
	B).Are you active in the morning?	40	80%	10	20%
	C).Are you going in vehicles to go to places near to you?	45	90%	05	10%
8.	Diet				
	A).Do you taking deep fried foods?	20	40%	30	60%
	B) Do you take fast foods frequently?	35	70%	15	30%
	C).Do you take fruits and vegetables in the diet regularly?	30	60%	20	40%

Table No. 3 shows that most participants reported positive eating habits, such as consuming food three times a day (92%), taking meals on time (96%), and preferring homemade food (90%). However, a

considerable proportion also reported unhealthy practices, including frequent consumption of fast food (24%) and deep-fried foods (40%), suggesting inconsistency between knowledge and actual behavior.

Sleep patterns appeared to be suboptimal. Only 64% of participants achieved adequate nighttime sleep (8 hours), while a notable proportion engaged in daytime sleeping (40%). Although 72% reported deep sleep, the presence of screen exposure before bedtime (12% watching television and 12% using smartphones) may negatively influence sleep quality.

Substance use was found to be alarmingly high. A majority of participants reported smoking (60%) and alcohol consumption (80%). Despite this, many

participants expressed awareness of the harmful effects, as 60% felt bad about smoking and 50% reported difficulty in abstaining from alcohol. However, only a small proportion (20%) had attempted to control or stop alcohol use, indicating low behavioral change despite awareness. Early morning alcohol consumption (40%) further reflects dependency patterns.

Additionally, tobacco use (20%) and other substance abuse (10%) were reported, highlighting further health risks among the population.

Table No. 4: Effectiveness of Behaviour change communication on lifestyle disorders among adults.

Variables	Pre-test Mean $\pm$ SD	Post-test Mean $\pm$ SD	Paired 't' value	Table value	Significance
Level of knowledge	12.4 $\pm$ 0.43	18.7 $\pm$ 0.86	4.54	2	Significant P-0.0001

Table No.4 showed that the mean scores increased in the posttest and showed a significant Improvement in the level of knowledge on lifestyle disorders among adults. The paired t-test value of knowledge scores on lifestyle disorders showed statistical significance in Pretest compared to post-test. It indicates that the behaviour change communication significantly improved knowledge on lifestyle disorders among adults.

CONCLUSION

The present study aimed to assess the effectiveness of Behavior Change Communication (BCC) on knowledge and practices related to lifestyle disorders among adults in the selected village, Erode. In pre test Majority of adult had a poor 80% level of knowledge and 18% have moderate knowledge and only 2% have adequate knowledge. In post test Majority of adults got moderate knowledge (62%) regarding lifestyle modification disorders. The study revealed that behaviour change communication was effective in increasing the level of knowledge regarding lifestyle disorders among adults in the selected village, Erode.

Although participants exhibited some healthy practices, the baseline findings also revealed the presence of several risk behaviors such as unhealthy dietary habits, inadequate sleep, substance use, and physical inactivity. This highlights a clear gap between knowledge and actual lifestyle practices.

The implementation of BCC, including group health education and role play, proved to be a practical and effective approach in enhancing awareness and promoting positive behavioral changes. Therefore, such interventions can be widely utilized by nurses and healthcare professionals at the community level to prevent and control lifestyle disorders.

DISCUSSION

The present study assessed the effectiveness of Behavior Change Communication (BCC) on knowledge and practices regarding lifestyle disorders among adults in a rural community of Erode, Tamil Nadu. The baseline

findings revealed that the majority of participants had poor knowledge regarding lifestyle disorders, indicating inadequate awareness of risk factors, preventive measures, and healthy lifestyle practices. Following the BCC intervention, a significant improvement in knowledge was observed, demonstrating the effectiveness of structured health education and role play in enhancing participants' understanding of lifestyle disorders. These findings are consistent with the study by Papachristou *et al.* (2024), which reported that behavior change techniques such as goal setting, self-monitoring, feedback, and social support effectively improve health-related knowledge and promote positive lifestyle behaviors. Similarly, Ng *et al.* (2020) concluded that lifestyle interventions focusing on diet, physical activity, smoking cessation, and alcohol reduction play a vital role in preventing non-communicable diseases.

The assessment of lifestyle practices indicated that although many participants reported healthy habits such as regular meal intake and consumption of homemade food, unhealthy behaviors including physical inactivity, tobacco use, smoking, alcohol consumption, and unhealthy dietary practices were still prevalent. These findings highlight the gap between knowledge and actual health practices, emphasizing the need for continuous motivation and reinforcement to sustain behavior change. The significant improvement in posttest knowledge scores suggests that Behavior Change Communication is an effective and feasible strategy for community-based health promotion. Therefore, integrating BCC interventions into routine community health nursing services and primary healthcare programs can enhance awareness, encourage healthy lifestyle practices, and contribute to the prevention and control of lifestyle disorders among rural populations. Future studies involving larger samples, control groups, and longer follow-up periods are recommended to evaluate the long-term effectiveness of such interventions.

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