

Effect of Health promotion Intervention on Changing Gender Norms Perception Among Women in Rural Areas

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Abstract

Background: Gender norms are considered the root causes of multiple physical, psychological, social, economic and sexual violence among women in rural areas. **The purpose** of the study was to examine the effect of health promotion intervention on changing gender norms perception among women in rural areas. **Design:** A quasi-experimental (pre & post) design was utilized. **Sample:** A simple random sample of 300 women in rural areas aged from 18-59 years were recruited in the study. **Setting:** The study was conducted at rural areas chosen from two districts affiliated to Menoufia governorate, Egypt. They were selected randomly included; Birket El-Saba and Shibin El-Kom districts, Menoufia Governorate, Egypt. **Instruments:** Structured interviewing questionnaire (socio-demographic and gender norms questionnaire). **Results:** The current study revealed that, there was significant improvement in gender norms perception of women on post 1 intervention (39.7 ± 1.4) and post 2 (40.2 ± 1.3) than pre intervention (21.8 ± 1.3). In addition, there was significant improvement in total mean score of gender role attitude on post intervention (20.2 ± 1.2) than pre intervention (19.8 ± 2.11). **Conclusions:** Health promotion intervention is significant in changing gender norms perception, gender role attitude among women in rural areas. **Recommendations:** Conducting extensive longitudinal educational intervention aims to raise awareness of rural women and their husbands about harmful gender norms and its consequences.

Keywords: Gender Norms, Health Promotion Intervention, Women in Rural Areas

Introduction

World Health Organization defines gender as "the characteristics of women, men, girls and boys that are socially constructed". The beliefs, values and attitude taken up and exhibited by them is as per the agreed upon norms of the society and the personal opinion of the person is not taken into the primary consideration of assignment of gender and imposition of gender roles as per the assigned gender (Lindqvist et al., 2021).

Norms are the rules and expectations by which a society guides the behavior of its members, reflecting values, beliefs, and traditions. are more like invisible "guard rails" that shape and narrow people's thinking, behaviors, and opportunities. So, norms often show up as a kind of negative power, doors that just didn't open, choices that couldn't be

made, opportunities that just seemed out of reach (Gross & Vostroknutov., 2022).

Gender norms are the expectations society has about how individuals should behave, based on their gender. In rural communities, these norms are often shaped by tradition, culture, religion, and limited access to education or media. While not all rural communities are the same, many share similar gender-based roles and expectations that strongly influence daily life and social structure (Lindqvist et al., 2021).

Gender norms in rural communities represented that men expected to be the breadwinners and heads of the household, often take on roles related to decision-making, and leadership, taught to be strong and emotionally reserved (Bursztyn et al., 2023). Women expected to be caregivers, homemakers, and support their husbands, responsible for child-rearing, cooking, cleaning, and sometimes unpaid farm work, discouraged from leadership roles, often

expected to marry young and prioritize family over education or career (Gross & Vostroknutov, 2022).

Harmful gender norms often persist more strongly in rural communities compared to urban areas due to a combination of social, economic, educational, and cultural factors such as: traditionalism and cultural conservatism which stated that, rural communities are often more conservative and traditional, preserving long-standing beliefs about gender roles. These traditions may value male dominance and female submissiveness, limiting women's roles to domestic duties or early marriage (King et al., 2021).

Gender attitude" refers to an individual's or a society's beliefs, perceptions, and feelings toward people based on their gender. These attitudes influence how people are treated, what roles they are expected to play, and how they view themselves and others in terms of gender. Gender attitude influences self-esteem, career choices, interpersonal relationships and affects policies, gender equality, violence against women, access to education and work (Daw & Scharf 2024).

Gender role attitudes are the social rules and expectations that dictate how individuals should behave, dress, work, and interact based on their gender. These norms vary across cultures and time periods, and they are shaped by a range of interconnected factors such as cultural and traditional beliefs that is one factor influencing norms and roles. Rural communities often follow long-standing traditions that define strict roles for men and women. Example: Men are seen as breadwinners and decision-makers, while women are expected to manage the home and care for children (Daw & Scharf 2024).

Gender roles in rural communities are often deeply rooted and influenced by a combination of traditional, cultural, economic, and social factors. These norms can significantly shape roles, responsibilities, and opportunities for individuals based on their gender (Erçan& Uçar, 2025).

Health promotion refers to the process of enabling individuals and communities to

increase control over and improve their health. It goes beyond focusing on individual behavior and looks at a wide range of social and environmental interventions (Nutbeam, D., & Muscat, 2021).

Health promotion interventions to change gender norms aim to transform harmful beliefs, attitudes, and practices related to gender that negatively impact health especially among women, girls (Fisher, & Makleff,2022).

Women's empowerment is the process of empowering women. Empowerment raises the status of women through education, awareness, literacy, and training. Women's empowerment equips and allows women to take life-determining decisions. They may get the opportunity to redefine gender norms roles, which in turn provide them more freedom to pursue desired goals (Bera et al., 2024).

Community Health Nurses (CHNs) play a critical frontline role in addressing and transforming harmful gender norms that negatively impact health particularly in rural settings where access to education, healthcare, and gender equality resources. Closing the gender gap requires transformation of and gender norms. so that interventions are needed to change, gender norms and attitude and support human rights of women and girls (Nutbeam, & Muscat, 2021).

Significance of the study

Harmful gender norms have negative consequences on women health, the prevalence of gender norms in rural communities is typically high, often due to a combination of traditional values, limited exposure to viewpoints, and slower societal change compared to urban areas. These norms can shape everything from roles in the household to access to education, healthcare, and economic opportunities (Moreau et al., 2021).

Harmful gender norms and negative attitudes toward women have wide-ranging and deeply rooted effects, impacting nearly every aspect of their lives. These effects can be social, economic, psychological, and even physical

(Campbell et al., 2022). In many rural communities, girls are less likely to complete school due to early marriage, domestic responsibilities, or lack of resources, employment opportunities for women outside of informal or agricultural work are minimal, gender norms may discourage women from working or pursuing leadership roles (Murphy et al., 2021).

Gender-transformative approaches are needed, but a necessary first step is to identify restrictive and harmful gender norms and monitor change. Restrictive gender norms practiced by societies increase the risk of violence by men against women (WHO, 2019). Worldwide, over 12 million girls are married before age 18 each year. In 2023, 51,100 women and girls were killed by a partner or family member≈140 per day (Sardinha et al., 2022).

community health nurses play a vital role in promoting women's empowerment, especially at the grassroots level. Their close connection to families and communities allows them to address not only health issues, but also social, economic, and gender-related barriers that limit women's rights and opportunities (Nutbeam, D., & Muscat, 2021).

Purpose of the Study

To examine the effect of health promotion intervention in changing gender norms perception among women in rural areas

Research hypothesis:

- Women who receive health promotion intervention will experience positively improvement in gender norms perception and gender role attitudes post-intervention than pre- intervention.

Methods

Research Design:

A quasi-experimental (pre & post) design to achieve the purpose of the study.

Research Setting:

The study was conducted at two rural areas chosen from two districts affiliated to Menoufia governorate, Egypt. They were

selected randomly included; Birket El-Saba and Shibin El-Kom districts, Menoufia Governorate, Egypt.

Study Sample:

A simple random sample of 300 from rural areas, selected from two districts affiliated to Menoufia governorate, Egypt. They were selected randomly included; Birket El-Saba and Shibin El-Kom districts, Menoufia Governorate, Egypt

Assignment of study setting

- A multistage random selection was conducted on all rural health units that affiliated to Menoufia Governorate, Egypt that located in Birket El-Saba and Shibin El-Kom city.

- Simple random selection technique by writing the names of settings in folded papers then choosing papers to select setting.

- The randomly selected setting was the number of rural health units in Birket El-Saba and Shibin El-Kom city Menoufia Governorate, Egypt.

This assignment was represented at the following figure:

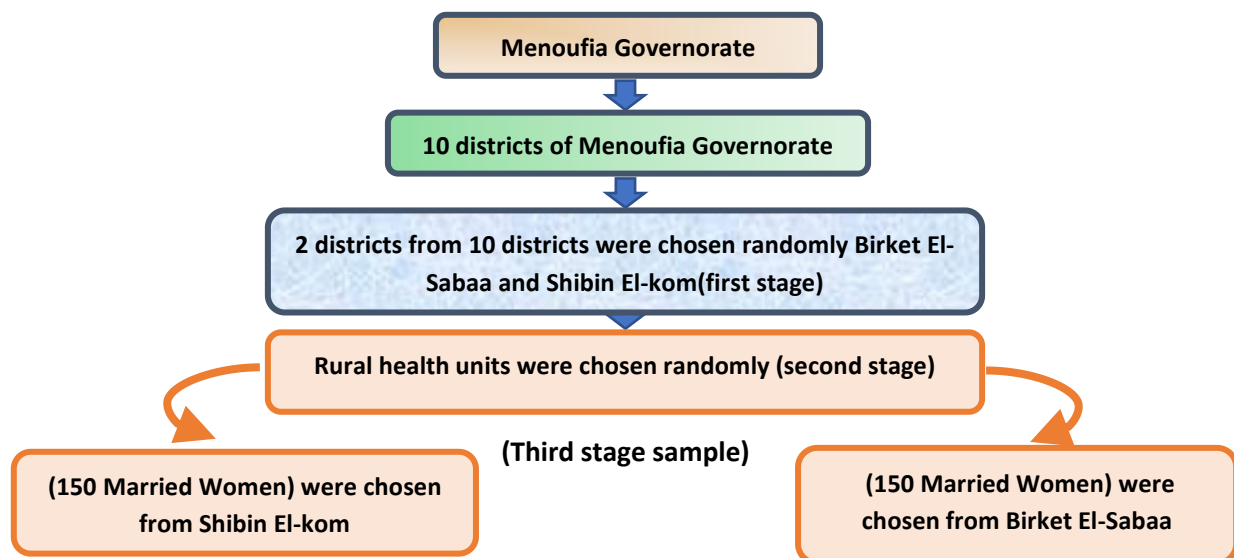


Fig : Method of implementation the multistage random sample in order to select the required sample size (300) studied rural women

Sample size:

In order to calculate the required sample size, the study used proportion sample size approach of Epi website (Open-Source Statistics for Public Health 2021)*. The sample size ' Equation was: Sample size $n = \frac{[DEFF * Np(1-p)]}{[(d^2/Z^2(1-\alpha/2 * (N-1) + p * (1-p))]}$

Where Population size (N) =10000 married women living at rural areas (according to Mobilization and of statistics center in Menoufia administration health issues in Menoufia Governorate).

% frequency of partner violence against women in rural areas (pilot study), (p)= 28%+/-5

Confidence limits as % of 100 (d)=5%

Design effect (for cluster surveys-DEFF) = 1

Z: probability when P is less than 0.05 = 1.96

α : alpha error = 0.05

Confidence interval of 95% was used, with a sample size of 301 married women (which was approximated to 300, as current study sample size who would agree to participate. The study sample size was be distributed between the two selected RHUs settings of this study (150 married women for each). **The**

study sample was selected according to the following criteria:

A- Inclusion criteria:

1. Married Women who aged from 18-59 years
2. Willing to participate in the study

B-Exclusion criteria:

Women suffering from mental illness to ensure that they were able to understand the information.

Study instruments:

Structured interviewing questionnaire:

Developed by the researcher after reviewing the related national and international literature, discussion with experts to collect data about the subjects and wrote in simple Arabic language to suit of understanding of studied women It contained the following parts:

Part I. Sociodemographic questionnaire for the women and her husband: It designed by the researcher after revising of the related literature and getting opinions of experts for content and validity and includes the following: age, age of marriage, education, job status, family income, number of children, and if partner consumes alcohol/drugs.

Part II. Gender norms instruments were divided into two sections: -

A) Gender Norms questionnaire:

Questionnaire was adapted from (Baird et al., 2019). It used to assess perceptions of gender norm and explore societal expectations and beliefs about how men and women should behave, think, and interact.

The scoring system:

Gender norms questionnaire contained a set of 14 items e.g. It is more difficult for girls to achieve their goals than for boys. This questionnaire in the form of 3-point Likert scale, the responses of questions were (1) Agree, (2) Neutral, (3) Disagree. The higher the total score the higher improvement in perception of gender norms. The levels of gender norms perception were categorized into "Low (14-23) of the total score, "average" (24-33) of the total score, and "High" 34-42 of the total score.

Reliability

Reliability was estimated by using test-retest method with two weeks apart between them. Then Cronbach alpha was calculated between the two scores using SPSS computer package. It was 0.85 which indicates that the instrument to be used in the study

B) Gender Role Attitudes questionnaire:

Gender role attitudes questionnaire was adapted from (Wegs et al., 2016). It designed to measure individuals' beliefs and opinions about the appropriate roles and behaviors of men and women in society.

The scoring system

Gender Role Attitudes questionnaire consists of 9 items divided into two categories:

(a)Positive gender role attitudes consisted of 5 items e.g. beliefs such as both men and women contributing equally to family income. It measured on a 3-point Likert scale: (1) Disagree, (2) Neutral, and (3) Agree. The total score ranges from 5 to 15. The higher

total score indicates improvement of positive gender role attitude.

(b)Negative gender role attitudes consisted of 4 items, such as the belief that women who have children are more respected than those who do not, or that fathers should have the final say in children's healthcare decisions. It also measured on a 3-point Likert scale, but with reversed scoring: (1) Agree, (2) Neutral, and (3) Disagree. The lower total score indicates improvement of negative gender role attitude.

The total mean score of gender role attitudes questionnaire ranges from 9 to 27. The levels categorized into three levels "Low (9-15) of the total score, "average" (16-21) of the total score, and "High" 22-27 of the total score.

Reliability

Reliability was estimated by using test-retest method with two weeks apart between them. Then Cronbach alpha was calculated between the two scores using SPSS computer package. It was 0.86 which indicates that the instrument to be used in the study.

Pilot study: -

A pilot study was conducted on 10 % women to assess the feasibility of the study as well as clarity and objectivity of the tools. The needed modifications were incorporated to add or omit questions if needed, the time required for tool fulfillment were calculated. Also, to assess the availability of environment which facilitate the data collection. Pilot study was excluded from the total study sample size.

Ethical Considerations:

- A written approval from Ethical Research Committee was obtained from Faculty of Nursing, Menoufia University to conduct the study.
- An official letter was obtained from the Dean of Faculty of Nursing, Menoufia University directed to the directors of selected health units to get their agreement, permission and support to conduct the study.
- Informed consent was obtained from each participant of the study. The studied women who agreed to participate in the

study was assured about confidentiality and anonymity of the study. They were informed about their right to withdraw from the study at any time without giving a reason. The purpose of the study was clarified for the participants by the researcher and any needed clarifications was done.

Procedure for data collection

- Data were collected throughout one year starting in February 2024 and completed in January 2025 (included pre, intervention and post intervention).
- An official letter was obtained from the Dean of Faculty of Nursing, Menoufia University about the aim of study to obtain an official permission to conduct study.
- The study instruments were prepared based on literature that involves all aspects of the problem via articles, periodicals, magazines books and internet sources to be acquainted with the actual dimension and magnitude of the study problem and to guide in developing the study instruments.
- Illustrated educational booklet were prepared beside a schedule plan for the number of educational sessions for intervention after reviewing the literature review.
- In health units, private room was organized to meet rural women in order to maintain privacy and confidentiality.
- A total sample size under the study was divided into groups (16) groups. each group consisted of 18-19 studied women, the researcher interviewed two groups weekly in health units of rural village, the instrument of data collection took 30-45 minutes to be filled.
- The researcher was conducted the intervention by using educational videos using laptop for explanation of every session content through group discussion, role play and brain storming, in addition to a copy of illustrating booklet about gender norms definition, causes, effects

of gender norms, consequences for changing gender norms on women, family and community, gender equity violence, women empowerment was given to studied rural women to share their husbands to participate in the study.

- The researcher welcomed with women husbands' participation in the group discussion of intervention.
- At the end of each session, the feedback of intervention was taken from studied women. The subsequent sessions were arranged according time and date. The studied women were followed by telephone to ascertain the guidelines of intervention

The health promotion intervention was applied through the following sessions: -

First session: - lasted about 2hrs, it included knowledge of gender norms including definition of gender, norms, gender norms , importance of understanding gender norms. Furthermore, causes and predisposing factors of harmful gender norms, differentiation between gender and sex, impact of harmful gender norms on women, family and community.

Second session: - Took about 2hrs, it included knowledge of gender role attitude including definition, types, principles, importance, along with its implementation across various sectors including education, employment, health, and rights, under representation in leadership.

Third session: lasted approximately three hours and focused on strategies to improve self-efficacy (ability to succeed, make decision and take control of their lives).decision making roles and importance of recognizing the appropriate time to assertively say 'no'."

Fourth session: lasted about 2hrs, it aimed to enhance studied women function role by focusing on managing social relations, taking time for self -relaxation, communication with others and modifying daily routine, problem -solving techniques and enhancing life skills training.

Fifth session: Took about 3hrs included definition of women empowerment (or female empowerment) including definition, purpose, importance, dimensions, barriers, effects, strategies to promote women empowerment and relation between gender equity and women empowerment .

Sixth session: - Took about 2hrs, it aimed to improve self-concept by focusing on coping with stress, ways to remaining positive, caring of one self, the importance of looking healthy, regular medical checkups, maintain personal neatness and raise awareness about physical, mental and reproductive health.

- After finishing the planned sessions, (posttest 1) was collected after the educational sessions using same instruments immediately after last session. Retention (posttest 2) was collected after 3 months from (posttest 1) in order to determine the similarities, differences and gap of knowledge.

• Statistical Analysis: -

Data was entered and analyzed by using SPSS (Statistical Package for Social Science) statistical package version 22. Graphics were done using Excel program.

Quantitative data were presented by mean (X) and standard deviation (SD). It was analyzed using student t- test for comparison between two means, and ANOVA (F) test for comparison between more than two means.

Qualitative data were presented in the form of frequency distribution tables, number and percentage. It was analyzed by chi-square (χ^2) test. However, if an expected value of any cell in the table was less than 5, Fisher Exact test was used (if the table was 4 cells), or Likelihood Ratio (LR) test (if the table was more than 4 cells). Level of significance was set as P value <0.05 for all significant tests.

Results:

Table (1), and Fig.1 and 2: Demonstrate the distribution of studied rural women according to their socio-demographic characteristics. They show that, 41.7% of the studied rural women aged between 31 to 40 years and total mean of age is 26.3 ± 1.2 years.

Approximately 70% of them get married at age 20 - < 30 years. As regards their level of education, 51.7% of them have secondary education, while 6.3% of them have university education. Concerning to their job status, 70.3% of studied rural women are not working, regarding to family income, 54.7% of them don't have enough family income. Furthermore, 42.7% of studied rural women have ≥ 3 child while 18.3% of them have no children. Regarding to suffer from chronic diseases, 10.3% of studied rural women have chronic diseases.

Table 2: Demonstrates distribution of studied rural women 'husbands according to their socio-demographic characteristics. It shows that, 51.3% of the studied rural women 'husbands aged 30 - <40 years and total mean of age is 36.7 ± 7.2 years. As regards their level of education, 66.7% of them have secondary education, while 5% have post university education. Concerning to husband job status, 81.3% are working. Regarding to suffer from chronic diseases, 24.7% of studied rural women 'husbands have chronic diseases. Furthermore, 65% more than one half of studied rural women 'husbands have smoking. In addition to 7.7% of them abuse alcohol or drugs.

Table 3: Represents that, on post - intervention there is a highly significant improvement in each gender norms perception items ($p < 0.0001$ for each). In addition, the total mean score of gender norms perception decreased from 40.2 ± 1.3 pre intervention to 39.7 ± 1.4 on post intervention1 and the difference is highly significant ($P < 0.0001$). On the same line, there is a highly significant decreasing in total mean score of gender norms perception on post 2 intervention total mean score of gender norms perception 21.8 ± 1.3 than pre intervention, ($P < 0.0001$).

Fig. 3: illustrates that, on post-intervention there is a highly significant improvement ($p < 0.0001$) in the total score of gender norms perception levels. As evidenced by "Low support of gender norms perception level" is decreased from 2.0% pre intervention to 1.3%

post 1 intervention, as well as to 1.0% in post 2 intervention and the difference among the three study periods (pre – post 1 – and post 2 interventions) is highly significant ($P < 0.0001$). In addition, the “Average support of gender norms perception level” is decreased from 96.7% pre intervention to 33.3 % and to 30.0% in both post1 as well as post 2 intervention respectively, and also the difference between the three study periods (pre – post 1– and post 2 intervention) is highly significant ($P < 0.0001$). On the other hand, the “High support of gender norms perception level is increased from 1.3% pre intervention to 65.4 % and to 69.0 % in both post1 and post 2 intervention respectively, and also the difference among the three studied periods (pre – post 1 – and post 2 interventions) is highly significant ($P < 0.0001$).

Table 4: presents that on post-intervention there are highly significant improvement ($p < 0.0001$) in each gender role attitude item. In addition, the mean total gender role positive attitude score increased from 8.2 ± 1.4 pre intervention to 14.8 ± 0.4 post intervention and the difference is highly significant ($P < 0.0001$). Regarding the mean total gender role negative attitude score, on post1 -intervention there is a highly significant improvement ($p < 0.0001$) in each gender role negative attitude item. In addition, the mean total gender role e attitude score decreased from (11.6 ± 0.71) pre intervention to (5.4 ± 0.8) post intervention and the difference is highly significant ($P < 0.0001$).

Fig.4 & Fig.5: presents that on post-intervention there are highly significant improvement ($p < 0.0001$) in gender role attitude levels. Concerning, the high positive attitude level, it is increased from 5.0% pre-intervention, to 90.0% in post intervention and the difference is high significant between them. Regarding high level of negative attitude score is decreased from 79.7% pre intervention to 2.0% on post intervention and the difference is highly significant ($P < 0.0001$). **Table (5)** :Demonstrates that, there are statistically significant associations between

the rural women’ socio-demographic items as age groups, levels of education, job status, and family income, and levels of support for gender norms perception levels on post 2 intervention ($p < 0.05$).

Table 1: Distribution of socio-demographic characteristics of studied rural women (n=300)

Socio -demographic characteristics of studied rural women	No.	%
Age (Years):		
< 20 years	39	13.0
20 - years	120	40.0
30 – years	125	41.7
40 - 50 years	16	5.3
Mean ± SD	26.3 ± 1.2 years	
Range	(19 – 50 years)	
Age at marriage:		
< 20 years	230	67.6
20 - years	80	26.7
30 years and more	17	5.7
Level of education:		
Basic education (primary & preparatory)	104	34.7
Secondary education	155	51.7
University education	19	6.3
Post university education	22	7.3
Job status:		
Working	89	29.7
Not working	211	70.3
Family income:		
Not enough	164	54.7
Enough	136	45.3
Number of children:		
Zero (No children)	55	18.3
1-2 child	117	39.0
≥ 3child	128	42.7
Suffering from any chronic disease?		
Yes	31	10.3
No	269	89.7
Total	300	100

Fig. (1): Age groups of studied rural women (n=300)

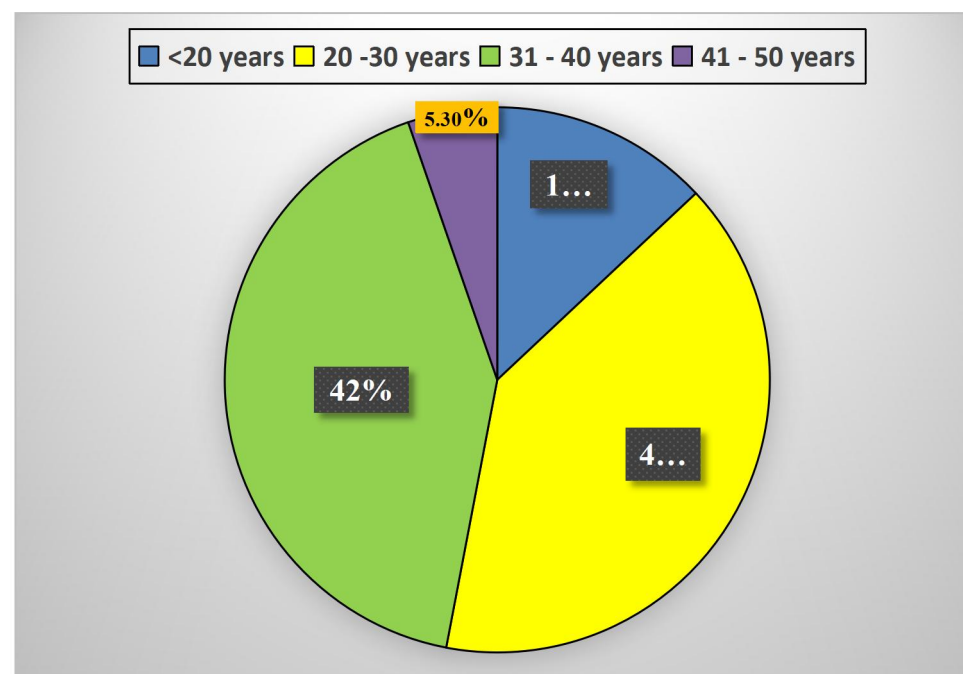


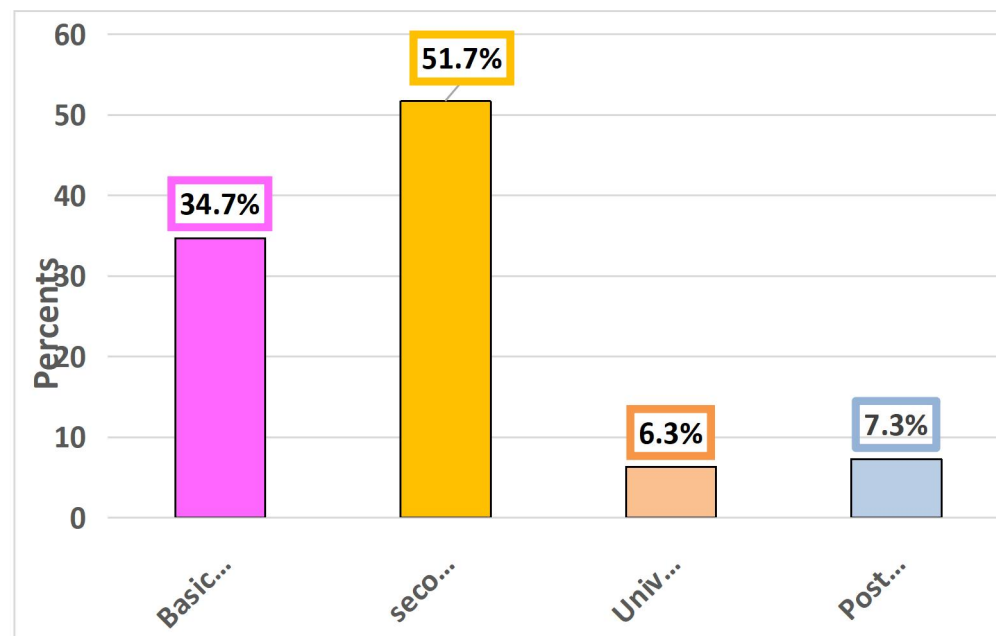
Fig. (2): Education levels of studied rural women (n=300)

Table 2: Distribution of socio-demographic characteristics of studied rural women 'husbands (n=300)

Socio demographic characteristics of studied rural women 'husbands	No.	%
Age (Years):		
< 30 years	60	20.0
30 - years	154	51.3
40- years	69	23.0
≥ 50 years	17	5.7
Mean ± SD	36.7 ± 7.2 years	
Range	(27 – 59 years)	
Level of education:		
Basic education (primary & preparatory)	18	6.0
Secondary education	200	66.7
University education	67	22.3
Post university education	15	5.0
Job status:		
Working	244	81.3
Not working	56	18.7
Suffering from any chronic disease?		
Yes	74	24.7
No	226	75.3
Smoking:		
Yes	195	65.0
No	105	35.0
Husband abuse alcohol or drugs?		
Yes	23	7.7
No	277	92.3
Total	300	100

Table 3: Distribution gender norms perception among studied rural women at pre, post1, and post 2 interventions (n=300).

Gender norms perception Items (14Q) A- Community Acceptance of social discrimination standards among rural women	Pre intervention			Post 1 intervention			Post 2 intervention			Fried.	P value
	Disagree (3)	Neutral (2)	Agree (1)	Disagree (3)	Neutral (2)	Agree (1)	Disagree (3)	Neutral (2)	Agree (1)		
	%	%	%	%	%	%	%	%	%		
– Girls often face greater challenges in achieving their goals compared to boys.	1.7	10.0	88.3	61.0	35.0	4.0	48.0	44.0	8.0	452.6	<0.0001
– Men are typically the ones who make the final decisions in household matters.	3.3	31.0	65.0	55.7	31.0	13.3	74.0	23.3	2.7	476.3	<0.0001
– In many cases, families are unwilling to allow girls to pursue education.	3.7	13.3	83.0	66.0	19.0	15.0	64.3	19.0	16.7	246.3	<0.0001
– Child-rearing and caregiving responsibilities are placed entirely on women.	4.0	34.0	62	41.3	23.3	4	62.7	33.3	4.0	147.2	<0.0001
– Household responsibilities aren't shared equally between boys and girls.	4.0	25.7	70.3	84.3	10.7	5	84.3	11.7	4.0	269.3	<0.0001
– -Women often rely on a male relative for protection or support in conflict situations.	6.7	29.0	64.3	81.3	10	8.7	90.3	8.7	1.0	327.3	<0.0001
– Women should be more economical than men.	13.3	32.4	54.3	89	10	1.0	85	13.0	2.0	509.2	<0.0001
– Males are preferred over women in terms of money.	3.7	28.7	67.6	80.7	18.3	1.0	75.7	19.3	5.0	717.7	<0.0001
– Women in my community have fewer employment opportunities compared to men.	3.7	10.3	86	50.3	48.7	1.0	50.7	34.3	15.0	463.8	<0.0001
– Women should prepare meals for the family and perform family necessities without help.	6.7	20.0	73.3	78.3	11.7	10.0	84.3	11.7	84.34	515.8	<0.0001
– Girls in the community tend to get married before reaching the age of 18.	5.0	39.3	55.7	91.0	5.0	4.0	88.0	6.0	6.0	421.3	<0.0001
– A woman must obey the orders and follow the instructions of male family members without being consulted and taking her opinion.	1.3	28.7	70.0	78.7	16.3	5.0	10.0	16.3	73.7	322.5	<0.0001
– Families in my community tend to impose stricter control over daughters than sons.	10.0	43.7	46.3	51.7	36.3	12.0	52.7	36.3	13.0	291.9	<0.0001
– Men have the right to punish women for improper behavior.	2.0	30.7	67.3	83.7	12.3	4.0	85.7	10.3	4.0	351.2	<0.0001
Mean ± SD (range)	21.8± 1.3 (14 -23)			39.7 ± 1.4 (24-33)			40.2 ± 1.3 (34-42)			F= 364.3	<0.0001

Fried. = Friedman test for repeated measures

Significant level (p value) <0.05.

F.= Analysis of variance for repeated measure.

Fig. 3: Perception levels of gender norms among studied rural women, pre, post1 and post2 intervention (n=300).

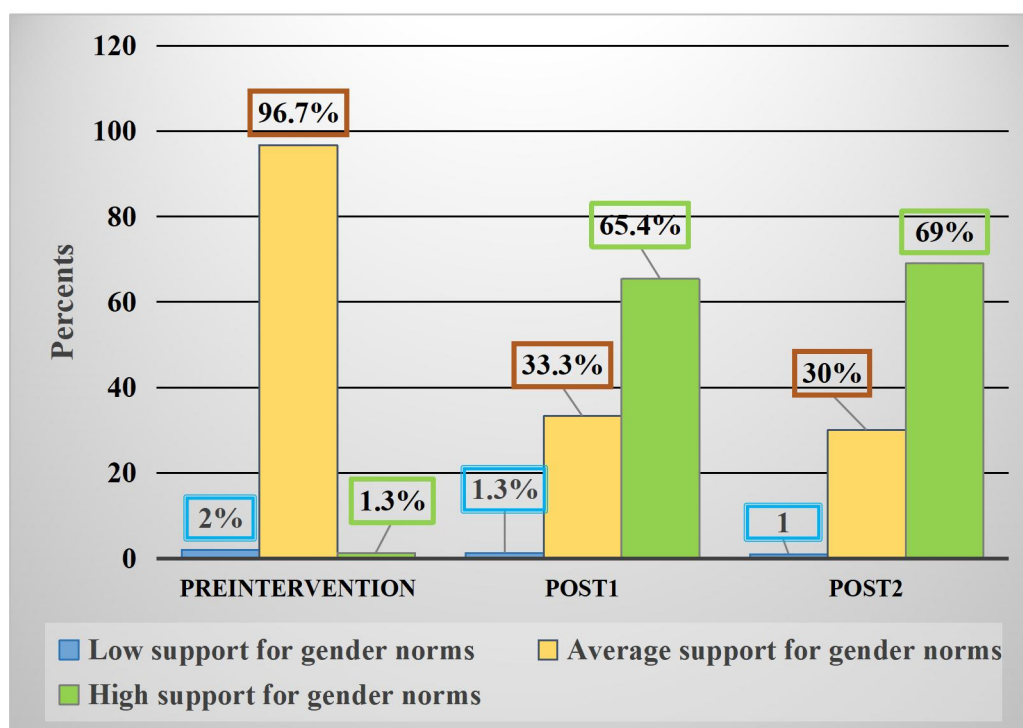


Table 4: Distribution of gender role attitude among studied rural women, pre and post 2 intervention (n=300).

Gender role attitude among rural women (9Q)	Pre intervention			Post intervention			X ²	P value
	Disagree (1)	Neutral (2)	Agree (3)	Disagree (1)	Neutral (2)	Agree (3)		
	%	%	%	%	%	%		
I-Gender role positive attitude								
– Both men and women play a role in supporting and increasing the family's income.	55.7	39.3	5.0	5.0	2.3	92.7	127.2	<0.0001
– Men and women share equal responsibility in maintaining family stability.	47.7	39.3	13.0	10.0	2.7	87.3	84.5	<0.0001
– Women actively participate in decision-making regarding family matters.	78.0	19.7	2.3	10.0	3.3	86.7	132.3	<0.0001
– Decisions about the number of children are made jointly by both partners.	71.3	13.7	15.0	2.0	2.7	95.3	126.7	<0.0001
– Men collaborate with their wives in completing household tasks.	72.7	24.0	3.3	5.0	12.7	82.3	132.9	<0.0001
– Mean ± SD (range) of total gender role positive attitude	8.2 ± 1.4 (5-9)			14.8 ± 0.4 (10-15)			t=43.5	<0.0001 HS
II-Gender role negative attitude	Agree (1)	Neutral (2)	disagree (3)	Agree (1)	Neutral (2)	disagree (3)		
– Women who have children are often viewed as more respected and valued than those who do not.	82.3	12.7	5.0	1.7	16.7	81.6	144.3	<0.0001
– Fathers typically have the primary authority in making decisions about their children's health.	70.0	26.0	4.0	2.0	28.0	70.0	124.2	<0.0001
– Men are generally expected to be the primary earners, while women are expected to manage the household and care for the family.	52.3	27.7	20.0	4.0	28.7	67.3	66.4	<0.0001
– When a woman earns more than her husband, it can cause tension or conflict in the relationship.	86.0	10.7	3.3	3.0	11.0	86.0	155.9	<0.0001
Mean ± SD (range) of total gender role negative attitude	11.6 ± 0.71 (4-7)			5.4 ± 0.8 (8 -12)			t=41.2	<0.0001 HS
Total mean score of gender role attitude	19.8±2.11 (9-17)			20.2±1.2 (18-27)			t=5.8	<0.01 HS

X² = Qui Square test. t. test = Paired t test.

Significant level (p value) <0.05.

Fig.4: Distribution levels of total gender role positive attitude among studied rural women ' pre and post 2 intervention (n=300)

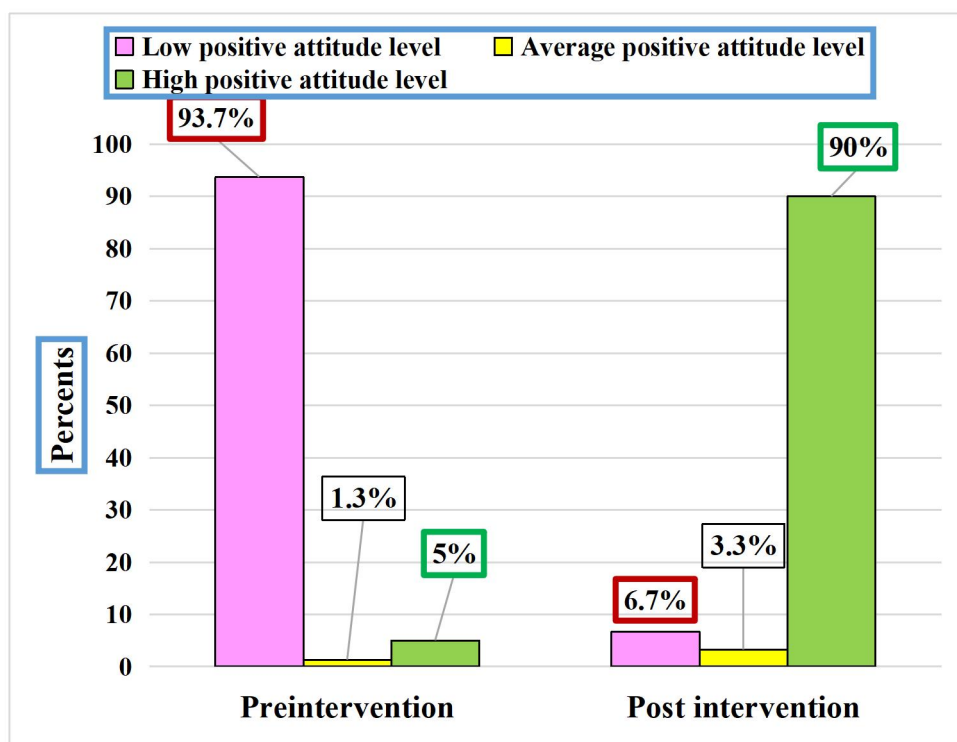


Fig. 5: Distribution levels of total gender role negative attitude among studied rural women pre and post 2interventions (n=300)

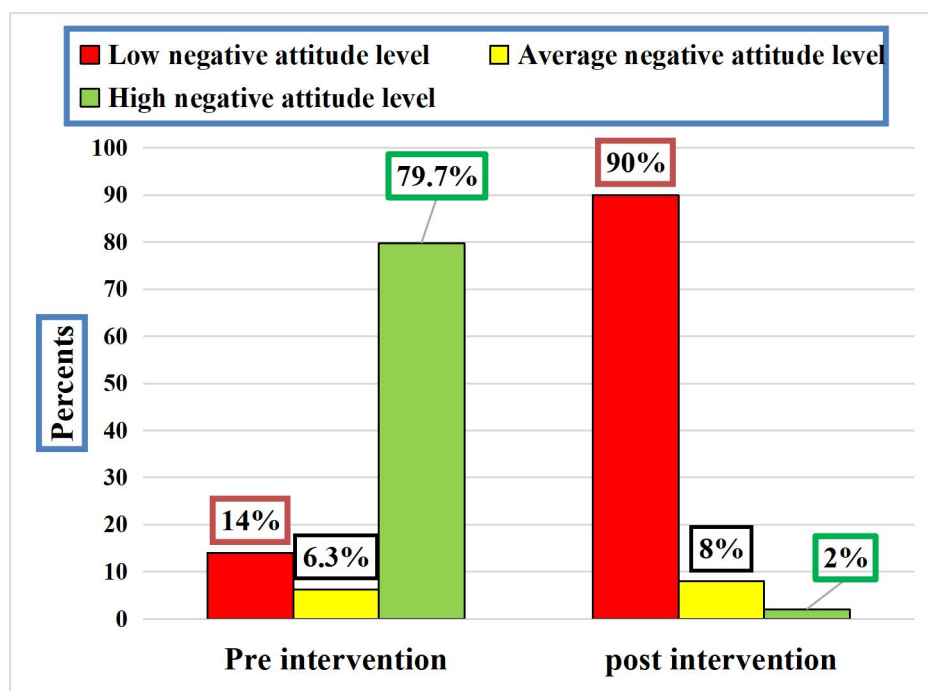


Table 5: Relation between Sociodemographic data and total gender norms levels on post 2 intervention (n=300)

Sociodemographic characters	Post intervention levels of Support for gender norms						Test of significance	P value
	Low		Average		High			
	No.	%	No.	%	No.	%		
Women’ age groups:							LR* = 10.7	P< 0.03 Sig.
< 20 Y (n=39)”	28	71.8	9	23.1	2	5.1		
20 – 30 Y (n=120)”	81	67.5	38	31.7	1	0.8		
31 – 40 Y (n=125)”	84	67.2	41	32.8	1	2		
41 – 50 years(n=16)	14	87.5	2	12.5	2	1		
Levels of education:							LR=14.5	P<0.02 Sig.
Basic education (n=104)	83	79.8	21	20.2	1	1		
Secondary education(n=155)	104	67	48	31	3	2		
University education (19)	8	42.1	11	57.9	1	1		
Post university education (22)	12	54.5	10	45.5	2	3		
Job status:							LR= 16.1	P<0.000 1 HS
Working (89)	72	80.9	17	19.1	3	3		
Not working (211)	135	64	73	34.6	3	1.4		
Family income:							LR=17.6	<0.003 HS
Not Enough (164)	110	67.1	54	32.9	2	2		
Enough (136)	97	71.3	36	26.5	3	2.2		
Total(n=300)	207	69%	90	30%	3	1%		

* LR= Likelihood Ratio was used instead of X^2 because 5 cells in the table have expected value < 5.

Discussion

Gender norms are social norms defining acceptable and appropriate actions for women and men in a given group or society. They are produced and reproduced through social interaction (Islam et al., 2025). They play a role in shaping women and men's (often unequal) access to resources and freedoms, thus affecting their voice, power and sense of self. People usually follow the gender norms of their culture, society or group and the boundaries (Cislaghi and Heise, 2020).

Harmful gender norms have a profound impact on women's health, affecting their physical, mental, and emotional well-being. Health promotion intervention lead to a significant changing on gender norms and reduction in violence against women in rural areas because they address the root causes of violence such as gender inequity, harmful gender norms, lack of awareness, and poor communication (Olaboye et al., 2024). Thus, the purpose of the current study was to investigate the effect of health promotion intervention in changing gender norms among women in rural areas.

Regarding to the effect of health promotion intervention (HPI) on changing gender norms perception among studied rural women (e.g. It is more difficult for girls to achieve their goals than for boys, Men have the final say on decisions at home) , The present study revealed that, there was a statistically significant improvement in total mean score of gender norms as it decreased on post 1 and post 2 intervention than pre intervention .These findings were consistent with Herath et al. (2018) ,who studied " The effect of a community-based health promotion intervention to change gender norms among women in a rural community in Sri Lanka" who found that there was a statistically significant improvement in gender norms mean score that decreased in post intervention (significance level < 0.05).

Additionally, these results were consistent with Semahegn et al. (2019), who studied" interventions focused on gender-norms effective in preventing domestic violence against women in low and lower-middle income countries, "who found that there was a statistically significant improvement in total mean score gender norms between pre and post intervention ($p < 0.0001$). This consistency might be due to these interventions are specifically designed to shift, and replace beliefs and behaviors that sustain harmful gender norms and Interventions provide accurate information and increase awareness about human rights, health consequences of harmful norms.

Regarding to the effect of health promotion intervention on total gender norms levels among studied rural women , the present study revealed that, there was a statistically significant improvement in total gender norms levels as it decreased on post 1 and post 2 intervention than pre intervention .These findings were consistent with Fisher & Makleff, (2022) who studied" Advances in Gender-Transformative Approaches to Health Promotion" in Iran ,who reported that there was a statistically significant improvement in gender norms levels as it decreased after post intervention ($p < 0.0001$).

This consistency might be due to the present study provide intervention that support women with knowledge, confidence, and a Regarding to the effect of health promotion intervention on total score of gender role positive attitude as well as negative attitude levels, the present study revealed that, there was a statistically significant improvement in total mean score of gender role attitude levels ($p < 0.0001$), on post intervention than pre intervention awareness that result in a shift in gender norms among women in rural areas.

Regarding to the effect of health promotion intervention on total score of gender role positive attitude as well as negative attitude levels, the present study

revealed that, there was a statistically significant improvement in total mean score of gender role attitude levels ($p < 0.0001$), on post intervention than pre intervention. Concerning to the effect of health promotion intervention on changing gender role positive attitude (e.g. Both men and women contribute to improving the family income, both men and women maintain the stability of the family), the present study revealed that, there was a statistically significant improvement in total mean score of gender role positive attitude as it increased on post intervention than pre intervention ($p < 0.0001$).

Concerning to the effect of health promotion intervention on changing gender role negative attitude (e.g. A woman who have children gains respect and value than woman who don't have, The father controls and has the final decisions regarding the health of the children), the present study revealed that, there was a statistically significant improvement in total mean score of gender role negative attitude as it decreased on post intervention than pre intervention ($p < 0.0001$).

These results were in agreement with Bornatici Reyat et al., (2020) who studied "Changing Attitudes Towards Gender Equality in Switzerland", who found that there was a statistically significant improvement in total mean score gender role attitude (Significance level ≤ 0.05). This is due to when a health promotion intervention takes place, these attitudes often become more equitable, meaning people begin to value fairness, respect, and equal roles across genders.

Also, these findings were consistent with Janzen et al. (2021), who studied "Training and shifting gender norms: Evidence from a training intervention in rural Nepal.", who found that there was a statistically significant improvement in total mean score of gender role attitude ($p < 0.05$). This is due to health promotion intervention play a crucial role in changing negative attitudes that harm women and community well-being. These interventions aim to educate, raise awareness, and encourage change by

addressing the root causes of harmful beliefs and misinformation

Additionally, these results were consistent with Vaillant et al. (2020), who studied "Engaging men to transform inequitable gender attitudes and prevent intimate partner violence in North and South Kivu, who reported that there was a statistically significant improvement in gender role attitude total mean score ($P < 0.0001$). This could be due to that health promotion intervention base on changing in gender role attitudes can open up access to education, jobs, ownership, and entrepreneurship, gain better access to reproductive health, nutrition, and medical care and empowers women to participate in decisions making, and leadership roles.

Concerning to relation between Sociodemographic data and total gender norms levels post intervention, the current study revealed that there were statistically significant associations between the rural women' sociodemographic items as age groups, levels of education, Job status, and their family income, and the post 2 intervention levels of Support for gender norms. These findings were congruent with Peraica et al. (2021). Who studied "Gender differences among domestic violence help-seekers: socio-demographic characteristics, types and duration of violence, perpetrators, and interventions" and found that there was statistically significant difference ($P > 0.05$) on post intervention. This could be interpreted that there is a strong relationship between sociodemographic characteristics (like age, education, income) and gender norms because these factors shape a person's life experiences, access to information, cultural exposure, and social roles all of which influence their beliefs and attitudes about gender.

Conclusions:

Based on the findings of the current study, it was concluded that:

On post intervention, there was statistically significant improvement in gender norms perception and gender role attitudes compared to pre intervention.

Recommendations:-

Based on the findings of the current study, it can be recommended that: -

- Conducting extensive longitudinal educational intervention aims to raise awareness of rural women about harmful gender norms and its consequences.
- Introduce leadership training and assertiveness workshops for women to enhance women's voice in community decision-making.
- Re applicability of the study research at different rural areas.
- Integrating gender topic into school and adult learning.
- Enhancing awareness of gender norms and fostering equitable attitudes among men and women through target education program, community dialogue, media campaigns and capacity building initiatives in rural areas.

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