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An Experimental Study of Fertility Behaviour in South West of Nigeria

By

J.O. Akinboye

*Department of Guidance and Counselling
University of Ibadan
Nigeria*

&

A.A. Alao

*Counselling Centre
University of Botswana*

Abstract

The study evaluated the impact of an educational film on the fertility and health behaviour of selected Yoruba speaking communities in South West Nigeria.

A field controlled experiment was utilized with 5 treatment groups and 5 controlled groups. Intact population units was adopted in the experimental sites and the mean age of participants was 38 years. Results indicated difference between the experimental and control groups in fertility behaviour. Clinic attendance for family planning also increased as a result of projection of the film.

Introduction

Service providers are aware of the importance of programme evaluation in testing the effectiveness of programmes. It is equally important for a programme to be systematically evaluated to ascertain if the objectives of the programme are being realized and to what extent. This study is to evaluate a Family Planning Communication film titled "Eni a wi fun". The film was on Family Planning Communication and other health issues and was produced through the help of Johns Hopkins University in its Family Health Services Project for Nigeria, with the aim of reducing fertility among some subjects and improving basic health of people in general. Most of the

studies on Family Planning in Nigeria have utilized descriptive survey approach. This study has however adopted a controlled field experiment approach which has been used in other countries and which is accepted as a better approach to evaluate programme impact.

Purpose of Study

The primary purpose of this study was to evaluate the impact of a film titled "Eni a wi fun" (which literally translates "You have been warned") on selected Yoruba speaking communities in South West of Nigeria. The study was also to determine the efficacy of the film in changing knowledge, attitude and use intentions of family planning methods among the subjects. It was also to determine the impact of the film on family planning clinic attendance.

Research Questions

The following questions were answered in the study:

- (1) What percentage of the participants on which the film was projected recalled the theme and principal messages of the film?
- (2) What percentage of the participants had positive attitude towards the film?
- (3) Did clinic attendance increase as a result of participants' viewing of the film?
- (4) Can one conclude overall that the "Eni a wi fun" film had any significant impact on the fertility and health behaviour characteristics of the participants on which it was projected?

Literature Review

Many evaluation strategies have been used of recent to evaluate the effectiveness of planning programmes. These strategies ranged from simple observations of effects made by a family health provider to sophisticated controlled field experiments.

Rogers and Agarwala-Rogers (1974) noted that "Evaluation consists not only of scientific methods but perhaps more importantly, of an evaluation point of view". This view sees evaluation as a philosophy of family planning communication in addition to empirical demonstration of effects. The view also requires that every family planning communication should be subjected to scrutiny on a continuous basis regarding its basic assumptions, programmes, decisions and execution.

Family Planning Communication Studies

A number of experimental studies had been conducted in different parts of the world. The field experiments on Family Planning (FP) may be grouped into three categories:

- (1) Experiments with no control.

- (2) Single treatment with no control and
- (3) Experiment with adequate controls.

The experimental studies of family planning with no control include that of Lu et al (1976) and the Korean IUD check up study, Bang (1970 b). The single treatment studies with no controls include the studies of Change et al (1972), that is the Taiwan Field Worker Incentive. Experiment and Rosefield (1972) Thailand Nurse-Midwife experiment and the Chan (1971) Hong Kong re-assurance project experiments.

Experimental Studies on Family Planning with adequate controls include the studies of Takeshita (1969) and Freedman and Takeshita (1969) popularly called Taichung experiment, Yang (1972 a). Korean Mothers' Clubs intensity experiment, Mitchell (1968) Hong Kong Field Worker evaluation, Simmons (1973), Bogota Pilot Experiment and Hill et al (1954), and Stycos (1962) Puerto Rico experiments. Each of the study, was observed to have produced some impacts on the participants in the family planning experiments.

Family Planning Studies in Nigeria

The evaluation of Family Planning Communication in one form or another had been conducted on Nigeria subjects for at least a decade. The power of mass media to draw subjects to the Family Planning clinic was investigated in Ilorin, Enugu and Ibadan by Piotrow et al in 1990. In Ilorin, the study revealed that clinic attendance increased from 254 in January 1984 to 3,345 in March 1987. The investigators observed that at least, part of the increase was attributed to their family Planning Campaign on the television.

In Enugu 43 dramatic episodes on Family Planning were incorporated into the popular variety show "In a Lighter Mood". The study observed that 45% of the clients mentioned that the television show was their source of referral.

In Ibadan, 26 episodes of the drama "Koko Close" and 13 episodes of "Mulero" advertised Family Planning issues. The study concluded that many clients mentioned the television programmes as sources of referrals.

Research Methodology

Design

The evaluation of the film involved the use of field controlled experiment. There were 5 treatment groups and 5 controlled groups. Experimental treatment was assigned to intact Local government population units because of the complicated nature of the field (i.e Local Government) communities. The design was represented as follows:

Experimental Condition 01 x 02
Control Condition 01 . 02

Where,

- 01 = Pre-projection observation
- X = Projection of the film "Eni'a wi fun"
- . = No treatment
- 02 = Post projection observation

Equation of the Local Government intact units was done by comparison of baseline data from the respondents.

Site Selection

A multi-stage sampling procedure was adopted. The 42 Local Governments in Oyo State (now divided into Oyo and Osun States) of Nigeria were given numbers on pieces of papers. Each Local Government thus had an equal chance of being chosen. A random selection of the 10 Local Governments at this stage included: (1) Akinyele, (2) Afijio, (3) Ila, (4) Atakumosa, (5) Lagelu, (6) Iwo, (7) Ayedade, (8) Ejigbo, (9) Egbeda, (10) Ijeda. The local Governments were again randomly divided into 5 in the experimental group and 5 in the control. After visitation to the Family Planning Clinics in the assigned Local Governments, the selected viable clinics were matched and then randomly assigned as experimental and control sites thus:

- Experimental: Moniya, Ila, Ijeda, Isoko (effects of Isoko projection was observed at Ejigbo) and Gbongan.
- Control: Fiditi, Otan, Osu, Ejioku and Iwo.

Sampling

Intact population units were adopted in the experimental Local governments towns or villages as randomization of individual subjects was not possible. The method of group comparability adopted was an objective comparison of the Local Government intact subject group scores at the base line levels. The mean age of the subjects who participated was 38.00 years and the age range was 18 to 45 years.

Instrument

A structured Interview Questionnaire and the Clinic Attendance Statistics were used to collect data in the study. The Questionnaire was prepared both by the researchers and Johns Hopkins University Health Project representatives in Nigeria. The Questionnaire comprised background data, family planning knowledge, attitude and use intention, post projection survey and other health issues.

Validity and reliability of the instruments were ensured by the systematic process of item selection by experts in family planning. The film itself was a sponsored project by Johns Hopkins University Health Project and the Ministry of Information in Nigeria, thus ensuring face validity. Internal consistency reliability was ensured by the fact that the questionnaire was administered to subjects in surrounding communities before the experiment was conducted. The scores of the 54 respondents on ratable items in the Questionnaire were analysed for internal consistency and average inter-item correlations. A co-efficient alpha of 0.761 observed, was considered high, thus indicating that the Structured Interview Questionnaire had acceptable internal consistency reliability.

Procedure

Before the start of the experiment, 4 field assistants who were nurses were trained on the purpose and logistics of the experiment. A pre-projection visit was made to the 5 experimental and control sites to ascertain the locations and degree of functioning of the family planning clinics, possible projection sites and other issues of feasibility of the experiment. The State Health Personnel were involved and the State Co-ordinator for family planning projects was involved in the administrative issues related to the field experiment and accompanied the research team to all experimental and control sites. The Obas and chiefs, the Local Government officials and Councillors assisted in mobilizing people in the various communities to participate in the experiment. On the film projection day, the Ministry of Information van went round the community to announce on aloud speaker, the film to be shown, before projection. Subjects who participated in the experiment sat in front according to identification marks given to them at the beginning of the experiment. An initial general instruction about the purpose of the experiment was given and an appeal was made for objective response prior to and after the film projection. After each film projection, community leaders encouraged experimental subjects to wait for the post projection interviews. The attrition rate of subjects for the post projection interview was also reduced by increasing the number of participating subjects in the post-projection interview.

Results

Findings of this study were guarded by the research questions discussed in the study.

Theme and Principal Messages

With reference to the percentage of participants who currently recalled the theme and principal messages of the film, the study revealed the following:

Experimental Sites: As indicated in Table 1, in Moniya 94.05% recalled family planning definitions at post-projection compared to 40% at pre-projection, 94% recalled family planning methods at the post projection, compared to 30% at pre-

projection, while 94.04% recalled family planning benefits at post projection, compared to 35% at pre-projection.

At the Ila experimental station 59.86% recalled family planning definitions at post projection compared to 54% at pre-projection, 58.78% recalled family planning methods at post projection compared to 45% at pre-projection, while 52.88% recalled family planning benefits at post projection compared to 35% at pre-projection.

At the Ijeda experimental station, 82.92%, 92.48% and 74.32% recalled family planning definition, methods and benefits respectively at post projection compared to 28%, 30% and 25% who recalled family planning definitions, methods and benefits respectively at pre-projection.

At the Isoko experimental station, 72.4%, 68.96% and 58.59% recalled family planning definition, methods and benefits respectively, at post projection compared to 43%, 20% and 40% who recalled family planning definition methods and benefits, respectively, at the pre-projection.

At the Gbongan experimental station, 87%, 83% and 75% recalled family planning definition, methods and benefits respectively at post projection compared to 20%, 45% and 20% who recalled family planning definition, methods and benefits at pre-projection response.

Some of the responses of the subjects to the definition of family planning include statements such as: "method of child spacing", "method of controlling population", "having the number of children one can cater for in terms of education/quality of life", "method of preventing unwanted pregnancy and disease", "method of prolonging female life/safety", and so on.

The family planning methods identified by subjects include the use of condoms, insertions, pills IUCD, Vasectomy, injections etc. The benefits of family planning given by subjects include: "prevention of un-wanted pregnancy", "promotes better quality of life", "maintains mother/baby health", "decreases disease resulting from pregnancy", "family planning encourages child spacing for proper care", "provides healthy living and planned life" and so on.

Table 1: Pre- and Post Projection, Comparison of Word (Analysis) of Response to FP Definitions, Methods and Benefits at Experimental Stations

Stations	FP Definitions			FP Methods		FP Benefit
	% Pre-Pro- jection	% Post projection	% Pre-Pro- jection	% Post Pro- jection	% Pre-Pro- projection	% Post Projection
Moniya	40	94.05	20	94.00	35	94.04
Ila	54	58.86	45	58.78	35	52.88
Ijeda	28	82.92	30	92.48	25	74.32
Isoko	43	72.40	20	68.96	40	58.59
Gbongan	20	87.00	45	83.0	20	75.00

Attitude Towards the Film

The response were also analysed to reveal likeness for the film. At Moniya, 96% of the subjects showed likeness for the film at post projection, at Ila 96.6% showed likeness at Ijeda all the respondents (100%) showed likeness for the film. At Isoko, 86.2% showed likeness and at Gbongan, all the respondents (100%) showed likeness for the film. Overall, the participants were observed at post projection to show positive attitude towards the film.

Clinic Attendance

Clinic attendance was evaluated to determine if there was increase in attendance in family planning clinics as a result of the projection of the film. Other information agents such as clinic personnel, outreach personnel, radio, television, friends and relatives, print media and community health workers were also observed and compared to the film projection to determine which convinced new clients or revisits to come to family planning clinics at experimental and control stations, as shown in Table 2 (Experimental Stations only).

At Moniya, 46.34% of new clients who came to the family planning clinic was due to the film. The following percentages of new clients, 83.74%, 100%, 49.55% and 42.85% that visited Ila, Ijeda, Ejigbo and Gbongan family planning clinics respectively were due to the projection of the film. The clinic attendance patterns in control stations at Osu, Otan-Ayegbaju, Iwo, Ejioku and Fiditi showed no records of new clients or revisits that could be attributed to the film projection. The clinic

attendance of new clients could thus be strongly attributed to the projection of the film on family planning.

Table 2: Post Projection Clinic Data at Experimental Stations

Information	% of Source of Conviction (New Clients and Revisits)				
	Moniya (N = 110)	Ila (N = 74)	Ijeda (N = 53)	Ejigbo (for Isoko (N = 86)	Gbongan (N = 78)
Eni a wi fun (the film)	46.34	83.74	100.00	49.55	42.85
Clinic Personnel	29.00	-	-	21.45	-
Outreach Personnel	-	-	-	0.90	-
Radio	0.9	-	-	1.80	-
Television	1.8	-	-	-	-
Friends/Relative	10.00	1.35	-	-	-
Print Media	0.9	-	-	-	-
Community Health Workers	10.0	13.50	-	2.70	57.14
Others	1.06	1.41	-	23.6	0.01

Overall Impact of the Film

The overall impact of the film "Eni a wi fun" on the fertility and health behaviour patterns of subjects on whom the film was projected was also evaluated. The impact was observed to vary from one experimental station to another. At Moniya, for instance, the film had great impact in terms of post-projection percentage increase for family planning definition, methods benefits and likeness.

At Ila, the film also had some impact but with lower magnitude when compared to Moniya for family planning definition, methods and benefits. At Ijeda, high degree of impact was also observed and variations in impact were also observed at Isoko, Gbongan and Ijeda in this order respectively. There were statistically significant differences between the pre-and post projection scores in all the experimental stations as indicated in Table 3 as follows:

Moniya, $t = 1.89$, $df = 12$, $p < .05$

Ila, $t = 1.87$, $df = 15$, $p < .05$

Ijeda, $t = 2.8$, $df = 26$, $p < .01$

Isoko, $t = 14.86$, $df = 20$, $p < .001$

Gbongan, $t = 4.65$, $df = 21$, $p < .01$

Table 3: Pre-Projection and Post Projection Comparison of the Mean FP Behaviour of Participants with Correlated t-values.

Experimental Stations	Number of Subject	ED	S ²	DF	t = values	P
moniya	14	33	4.84	12	1.89	<.05
Ila	17	29	2.25	15	1.87	<.05
Ijeda	28	126	10.89	26	2.8	<.01
Isoko	22	114	4.36	20	14.86	<.001
Gbongan	23	135	36.00	21	4.65	<.0

Furthermore, Table 4 shows the analysis of variance of responses of the different groups before the projection of the film. The table shows that most of the subjects mean scores at baseline levels were comparable as there were no significant differences between most of the means.

This suggests that the knowledge, attitude and perception of the subjects regarding family planning were fairly uniform at base line from Local Government to Local government.

Thus, the reliability or statistical significance of treatment differences if any could then be attributed to treatment, which is the film.

Table 4: Analysis of Variance on the Responses of the Different Groups Pre-Project Mean Scores

Source	df	Sum of Square	Mean Square	F	P
Between Groups	9	276.57	30.73	3.72	> 0.05
Within Groups	292	2410.73	8.23		
Total	301	2687.3			

Conclusion

In the evaluative experiment on the impact of the film "Eni a wi fun" on fertility behaviours of the subjects, the study revealed the following:

- (1) The entertaining aura built around the basic planning messages in the film enabled the subjects to appreciate and show interest in family planning messages and other health issues. The subjects also expressed the desire to watch the film again, with the possibility of learning something new, in the message and theme, of the film with each repetition. The study also revealed that family planning education, programmed in form of films would capture the attention of people more than other strategies.
- (2) Whereas, there is general acceptance of family planning practices in the experimental stations, the variations observed from one station to another suggested that the degree of the acceptance of family planning would vary from community to community due to a number of factors, which should be identified.

Recommendations

The findings indicate that the film had impact on the fertility behaviours of the subjects, hence it is recommended that the film be shown continuously with back-up informational commentaries to other communities. There is also the need to produce the film in other Nigerian languages and in English so that more communities can benefit from the central messages in the film. Similar efforts to influence the fertility behaviour of other subjects in other countries should be encouraged.

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