



Folk Songs for Health Education: A Qualitative Exploratory Study among Public and Pharmacy Enforcement Officers

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ABSTRACT

Dikir Farmasi (DF) is a new effort to expand and intensify the dissemination of information about the regulation of the legitimate use of drugs and cosmetics. This study was aimed to explore the opinions of Pharmacy Enforcement Division staff and the general public regarding the quality and impact of DF program as a health promotion tool in Malaysia. A qualitative study using semi-structured interviews and focus group discussions (FGDs) were conducted at the Pharmacy Enforcement Department and three health clinics located at the city of Kota Bharu, Malaysia. The interviews were audio recorded, translated and transcribed. Thematic analysis was performed to identify the themes and sub-themes of the transcripts. Ethical approval was obtained from Ministry of Health Malaysia. All respondents provided a written consent for participation. Nine pharmacy officers and 23 general public participated in this study. Five main themes emerged from the information gathered and analyzed: 1) language; 2) design; 3) content and delivery 4) costs and benefits and 5) prospect of DF. Certain weaknesses of DF have been raised and the health authorities could utilize this information for an improvement. Significant effort must be made to improve the publicity and dissemination of DF to ensure that it reaches the target population. Certain weaknesses of DF have been raised and the health authorities could utilize this information for an improvement. Significant effort must be made to improve the publicity and dissemination of DF to ensure that it reaches the target population.

INTRODUCTION

Health promotion is defined as “the process of enabling people to increase control over, and to improve, their health”. [1] Communicative acts, namely health communication, are deemed as intervention efforts which are instrumental to change public health promotion behaviors. [2]

Health messages nowadays are often conveyed in a complex manner via electronic multi-media. People with low health literacy particularly face difficulties in comprehending these messages as they often lack of essential health-related

background knowledge hindering them from understanding important information. [3, 4] This is aggravated by the fact that these people can be chronically ill and less engaged in health preventive services. [5, 6] To convey health messages effectively, strategic health communication techniques are imperative. One such techniques is entertainment education (EE). [7, 8]

EE embeds pro-social messages into entertainment programs to influence public attitudes, awareness and behaviors. [9] EE offers appealing stories where messages are imparted through prominent characters delivering interesting plots of which is not usually found in the traditional persuasive models. [10]

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In Malaysia, the Pharmacy Enforcement Department of Kelantan has taken initiatives to promote health education via a traditional musical form *dikir barat*, an innovative EE approach by introducing Dikir Farmasi (DF) as a means to promote health awareness to the public.[11] DF is a new effort to expand and intensify the dissemination of information about the regulation of the legitimate use of drugs and cosmetics. The juxtaposition of elements of entertainment with an educational message facilitates pharmacy related messages to be communicated in a livelier manner. The DF project has been created to reach out to the Kelantanese people whom deem *dikir barat* as a popular local art, commonly performed during festive and wedding celebrations.[12] In the early 90s, *dikir barat* was an edutainment. [8] It was utilized as a vehicle for social commentary, to stimulate discussion on current issues and scenarios.[11, 13, 14]

DF combines the elements of *dikir barat* (a type of traditional folk song rhythm) and traditional sketches from the state of Kelantan, Malaysia.[15] The DF music album, entitled "Let's use registered medicine" was produced in June 2011, consisting of four sketches, namely 1) "Processing of illegal drugs", 2) "Introduction to the service of the enforcement unit", 3) "Registration of medication", and 4) "Illegal cosmetics", as well as three *dikir* songs, namely 1) "Understanding the service of pharmaceutical services"; 2) "Know your medication", and 3) "Drug information".(9) The animation drama sketches and the lyrics of songs were produced by the enforcement officers from the Protection and Consumer Awareness Unit. DF has been disseminated in the form of theatre performance, exhibition, social and printed media as well as through the internet (YouTube) and , official Ministry of Health website.[12, 16, 17], Google-Play.[15, 18, 19]The VCDs and CDs have been distributed to every health facilities department, to taxi drivers, bus conductors, hyper-malls, as well as to other government agencies within the state of Kelantan.

To the authors' best knowledge, no documented literature has been reported about the impacts of the DF public educational campaign. This present study explores the opinions of Pharmacy Enforcement Division staff and the general public in Kelantan state of Malaysia. It elucidates the effectiveness and shortfalls of DF as health promotional tool and gather thoughts and suggestions for improving the program.

METHOD

Study design

Qualitative study utilizing semi-structured interviews and focus groups discussions (FGD).

Inclusion criteria:

- i) Pharmacy enforcement officers at Kelantan Pharmacy Enforcement Department.
- ii) The general public:
 - Kelantanese

- 18 years old or above
- With previous exposure to the DF programs

The exclusion criteria are those not able to understand standard Malay and Kelantanese Malay languages and individuals who refuse giving informed consent.

Setting

Three health clinics in Kota Bharu, Kelantan were selected due to high daily frequency of patients' visit and diverse patients' statistics in terms of gender, age and area of residence.

Sampling

Using the convenience sampling method, the public participants were identified and approached to join the study by a field researcher at the health clinics. The participants were recruited until no new themes emerged from the interviews.

Study procedure

Nine pharmacy officers were included. 40 public individuals were invited, 25 were interested to participate. However, 2 out of 25 failed to participate due to busy routine. Participants were briefed about the aim of study, researcher who did not represent any governmental agency and affiliate with DF program, their right to express and to withdraw from study with no penalty, goody bag containing a T-shirt and a souvenir as complementary gifts. The study receives Ethical approval from the Medical Research and Ethics Committee, Ministry of Health Malaysia (NMRR-15-1041-23897). All volunteers had to provide an written informed consent form before participating in this study.

Data Collection

Interviews of pharmacy officers were conducted individually in a private room at the Kelantan Pharmacy Enforcement Department. Focus group discussions and semi-structured interviews were conducted with general public. Focus group participants were divided into three groups; two groups of adults and one group of high-school students (7-9 per group).

The semi-structured interviews were conducted based on a prewritten interview guide, a schematic presentation of questions or topics. The semi-structured interview guide were developed through two rounds of panel discussion involving pharmacy lecturer, personnel that involved in DF and two education lecturers that had watched DF videos. The same interview guide was used for both officers and the general public. All the interviews and FGDs were carried out in separate rooms. Each semi-structured interview lasted 40-60 minutes. Interviewees were encouraged to express additional views at end of the interview.

Table 1: Demographic information of the pharmacy officers

ID	Age	Gender	Education	Monthly household income (US Dollar)
PO-1	29	Female	Bachelor of pharmacy	1400-1700
PO-2	30	Female	Bachelor of pharmacy	1400-1700
PO-3	31	Male	Bachelor of pharmacy	1400-1700
PO-4	32	Female	Bachelor of pharmacy	1400-1700
PO-5	30	Male	Bachelor of pharmacy	1400-1700
PO-6	36	Female	Master of pharmacy	1400-1700
PO-7	37	Female	Bachelor of pharmacy	1400-1700
PO-8	35	Male	Bachelor of pharmacy	1400-1700
PO-9	36	Male	Bachelor of pharmacy	1400-1700

Interviewers' Background

The interviews were conducted by researchers with PhD and have more than 5 years clinical and research experience. They have been trained to conduct semi-structured interviews, qualitative research and thematic analysis. The research team comprised of health administration and law enforcement officers, academician and researchers.

Data processing and analysis

All interviews and FGDs were audio recorded. The information was translated into English by two experienced translators. A third researcher (SB) was appointed to compare the audio-recorded interviews and FGDs information against the transcribed written copies. No field notes were taken.

Thematic content analysis was used to identify patterns or regularities within the data. [16, 17] Two researchers individually free coded the verbatim transcripts line by line. All sentences with the same code were reviewed to ensure consistency of interpretation and to confirm additional coding levels are needed. Homogeneity and heterogeneity between the codes were assessed and had them grouped into a hierarchical tree structure. The interviews of pharmacy officers were coded separately by another researcher. Similarly, the FGDs and the interviews of general public were coded separately by two other researchers. All coded data was then reviewed independently to determine inter-rater agreement. All disagreements were discussed until a consensus was reached. New codes were created, to capture the meaning of groups of initial codes. This process resulted in a tree structure with several layers.

Representative participant quotes have been provided and the study results have been reported following the Consolidated Criteria for Reporting Qualitative Research (COREQ) checklist.[20] (see supplementary file).

RESULTS

After interviewing nine pharmacy officers (3 men; 6 women, with a mean age of 30.3 years) from the Kelantan Pharmacy Enforcement Department, and 23 participants ((15 males; 8

females, with a mean age of 30.61 years) from the general public, two researchers reached a consensus that saturation had been met. Five main themes were identified: 1) language ; 2) design ; 3) content and delivery ; 4) costs and benefits and 5) prospects of DF. Table 1 and 2 outlined the demographic information of the pharmacy officers and the general public participants, respectively.

1. Language of DF

1.1. Understandability

DF is a health-information medium where information included should be direct and the language employed uncomplicated. For verification, respondents were asked if they faced difficulties in understanding the DF contents. All respondents, including the students, did not face problem in understanding the language since they are Kelantanese or residents of Kelantan. Respondents expressed that the DF information could not be instantly grabbed at the first exposure.

1.2. Language as a barrier for non-Kelantanese

Both pharmacy officers and the general public expressed concern about the ability of non-Kelantanese to understand the Kelantanese dialect. The respondents were however not keen to use standard Malay language claiming that if DF is expressed in non-Kelantanese dialect, DF will lose its charm. The use of Malay subtitles was recommended instead.

2. DF Design

2.1. Cultural significance

DF is culturally significant because the components used, dikir barat and the sketches, are parts of Kelantanese cultural arts. However, one of the respondents indicated that DF as entertainment is not a new idea other than by means of modern audiovisual aids instead of traditional flyers.

2.2. The Dikir barat (songs) versus the sketches

Both the pharmacy officers and the general public preferred sketches over dikir as i) the sketches can be understood by all

age groups and by non-Kelantanese. ii) the visual effects of sketches facilitate learning.

2.3: Distracting nature of entertaining elements of DF

Unlike pure entertainment, EE actively seek to change the audience's knowledge, attitude and behavior.²¹ According to the pharmacy officers and general public, the entertaining aspects of DF hindered the delivery of educational messages.

3. DF content

3.1: Length

Officers and certain public respondents highlighted that frivolous elements such as unnecessary jokes or prelude scenes should be minimized to reduce duration of DF videos.

3.2: Additional content

Pharmacy legislations such as fines and punishment for conviction of offences should be included in DF to alert people from violating pharmacy-related laws.

The roles of Pharmacy Enforcement Division should be featured to promote public awareness and public-government communication on issues such as medicine registration.

3.3 Take-home message

A mass media campaign cannot be effective unless the target audience is exposed to, attends to, and comprehends its message.²² Through DF, the importance of medication registration and administration methods were take-home messages for the respondents.

4. Content and delivery

4.1: Poor dissemination and publicity

DF has been in existence since 2009, but its implementation was not as effective in accordance to officers and general public.

"No one has talked to me directly about matters regarding this DF. (PO-6)"

"Erm...I'm not sure...because nobody has come to me and say they know about DF. I never had such an encounter. I don't know. (PO-3)"

"The dissemination is not widespread yet. It focuses more on the urban areas and does not cover the rural areas. (R-16)"

Certain officers lamented that pharmacists lack awareness about DF, so were some of them prior joining Pharmacy Enforcement Office. The pharmacists in the public and private

sectors should be exposed to DF to enable them to translate the benefits of DF to general public.

4.2: Communication mediums

Respondents also highlighted internet connectivity and accessibility were barriers for general public to receive information of DF.

"The sketches have been available on YouTube® since 2011 but they have only had 2000 views even though thousands of Kelantanese are reported to have access to the internet. (R-2)"

Respondents expressed the need to have DF broadcasted through multiple communication mediums, such as social media, television, radio, billboards, and TV screen in supermarket and pharmacies.

4.3: The need for collaboration

Calls for collaboration between DF team and other parties, such as the National Antidrug Agency and the District or State Education Department, were expressed. This is to equip school teachers with the more information on DF and to encourage DF live performances in schools and universities.

4.4: Other recommendations

More promotional tours and educational events engaging young children should be conducted. Celebrity endorsements were suggested by respondents.

"This campaign should also start as early as in kindergarten because children are easier to educate than adults. (R-4)"

"The selection of performers is also important, for instance Sabri Yunus. His fans will follow whatever he's doing. The same goes for Halim Yazid. If other performers replace him then the audience may not be interested to follow. (R-4)"

5. Costs and benefits

5.1: Resources consumed

Certain officers expressed concern about the cost effectiveness of DF. They doubted if the CDs distributed would be played. When applicable, one-to-one explanation and the use of apps were recommended. Officers had also expressed the concern regarding the time and manpower that DF consumed, especially for live performances requiring them to travel interstates:

"the exhibitions really take too much of their time, and they also have other jobs at their own stations...It's affecting their actual job. (PO-8)"

Table 2: Demographic information of the participants from general public

ID	Age	Gender	Occupation	Education	Monthly household income (USD)	Living area (Rural/urban)	Current medical conditions	Medicine received from	Number of medicines currently taking	Information source on DF
R-1	30	Male	Government sector	Tertiary	240-480	Rural	NA	Government	NA	Internet
R-2	19	Female	Student	Secondary	NA	Urban	Allergy	Private pharmacy	1 (yellow cream)	NA
R-3	25	Male	Student	Tertiary	NA	Urban	NA	Government health clinic	NA	Family/Friends
R-4	32	Male	Self-employed	Secondary	240	Urban	Asthma	Pharmacy	1	Road banner/billboard
R-5	30	Male	Private sector	Secondary	240	Rural	None	NA	1 (for cough)	Family/ friends Advertisement, internet, brochure, banners
R-6	20	Male	Student	Tertiary	NA	Rural	Allergic rhinitis	Government clinic	0	Internet
R-7	25	Male	Self-employed	Secondary	480-720	Urban	None	Government clinic	NA	Internet
R-8	27	Male	Self-employed	Tertiary	240-480	Urban	None	NA	NA	Family/Friends
R-9	30	Male	Government sector	Tertiary	240-480	Rural	NA	Government clinic	NA	Internet
R-10	35	Female	Government sector	Tertiary	480-720	Rural	None	Government hospital	0	Road tour
R-11	18	Female	Student	Secondary	NA	Urban	Short-sightedness	Private hospital	2	Internet
R-12	41	Male	Self-employed	Secondary	480-720	Rural	None	Government clinic /private pharmacy	1 (Vitamin C)	NA
R-13	48	Female	Housewife	Secondary	240-480	Urban	None	Government /private clinic	0	Family/friends
R-14	19	Female	Student	Secondary	480-720	Urban	None	Hospital/Clinic	0	Teacher
R-15	37	Female	Self-employed	Tertiary	1300	Urban	None	Hospital	0	Exhibitions
R-16	35	Male	Retired	NA	240-480	Urban	None	None	0	Joint-performance with DikirFarmasi
R-17	18	Female	NA	Secondary	NA	Urban	Asthma	NA	NA	Teacher
R-18	43	Male	Self-employed	Secondary	1300	Urban	None	Government clinic	0	Family/friends
R-19	37	Male	Government	Secondary	720-900	Rural	Chronic pain back	Government hospital	3	Advertisement, Internet, Brochure
R-20	40	Male	Government	NA	1300	Urban	None	Government hospital/Pharmacy	0	Advertisement, Internet, Brochure
R-21	23	Male	Private	Tertiary	240	Rural	None	None	0	Family/friends
R-22	38	Male	Government	NA	480-720	Urban	None	None	NA	Advertisement, Internet, Brochure, banners, Family/friends/
R-23	19	Female	NA	Secondary	NA	Urban	Anemia	Government clinic	0	Internet

"if I have to do performance, have to join the performance, a lot of my time is being spent on training.. (PO-7)"

5.2: Behavioral change

DF motivated general public to practise the health knowledge in their daily lives and to promoted behavioral change. However, some respondents admitted failure in doing so.

"The information is very helpful but compliance to the information is difficult, especially among adults. (R-4)"

"Dikir Farmasi is nice to listen to but to practice is the difficult part because I find it interesting to listen to but I don't practice the knowledge. (R-5)"

Some of the respondents, however, reported behavior change after exposure to DF:

"Before this I used to kept medication recklessly.... and didn't know that medications can be contaminated. After listening to the CD I will discard the medications. (R-7)"

"Before this I used to buy medicines sold at the night market. I've become more alert and check for registration of medicines after being exposed to DF. (R-1)"

6. DF Future

6.1: Adaptability of DF over time

There were disagreements among the general public if DF should adopt dikir or modern music.

"The suggestion to include K-Pop elements in dikir can be considered, but not to the point that the dikir loses its identity. (R-4)"

In toto, the officers were given authority to fully promote DF. Respondents highlighted that further assessment on the impact and acceptance of DF among public needed to be conducted. Pessimistic comments to replace DF with new ideas were recorded, although the options of replacements were not formulated:

"....ermmm...if I myself, ermm...I will discontinue it, the dikir. Because I myself, am not a huge fan of DF. Maybe...think of other ideas....So far I cannot come up with other ideas. (PO-7)"

6.2: Impact and cost-effectiveness

There is no known evidence investigating the impact versus cost effectiveness of the DF. No research reports the appropriateness and public acceptance level of DF.

DISCUSSION

The aim of the study was to explore perspectives of nine Pharmacy Enforcement Officers and reveal public perception on DF. The findings of the study revealed that there is a trend in the field of health emphasizing on health promotion rather than disease treatments.[20, 21] Health promotion incorporates appropriate self-management of medicine. Effective health promotion program requires to equip the public with relevant knowledge via health communications using advanced technologies.[20, 21] Officers need to be inculcated with appropriate health information for effective delivery to general public.

As reflected from the interviews, the Pharmacy Enforcement Officers interviewed are apparently not able to appreciate the value of DF as a tool in health-promotion. Therefore, it is recommended that the concept of health-promotion and how DF relates to it be discussed with the officers in helping them to appreciate the value and benefits of DF. It is worth mentioning that DF is available in both online and off-line and a recent study indicated that both methods were found equally effective for delivering pharmacy education.[22]

Proper planning and evaluation of outcomes are important to ensure the success of DF. Here we recommend the Precede-Proceed Model.[23]The Precede-Proceed Model has been utilized in multiple preventive health promotion programs in Australia including early health risk detection initiatives. Its success has been validated through several rigorously evaluated clinical and field trials.[23]Basically, the model's premise is on rigorous population assessment prior to development of health intervention (*Precede*), and post-intervention evaluation (*Proceed*) to measure the effectiveness of the program. The study's findings point to some weaknesses of DF since the contents had not been subjected to the *Precede* evaluation. DF is deemed to be too lengthy and the entertainment elements are distracting. For example, the officers lamented that DF activities are time-consuming and disrupting to their other duties. To overcome this issue, we recommend that a special portfolio be assigned to officers whose scope of tasks are mainly focused on DF. This officer may be given the responsibility of conducting the relevant research to assess the impact of DF. The appointed officer should act as the head of all DF programs and attend all DF activities to ensure smooth implementation. The majority of respondents have generally pessimistic views on DF. Personal opinions do not necessarily reflect the objective reality as personal views are dependent on the accuracy of the individual's assessment. Contrary to what people tend to believe, personal views are often flawed due to biases that can prevent the people from arriving at accurate judgments or decisions.[24] These biases may be attributed to the lack of information required to achieve accurate self-assessment. However, obtaining accurate information is not always an easy and straightforward task.[25] Effective communication strategy is lacking in health education. The implementation of

strategy should adopt theoretical framework that can adapt to cultural differences.[26-29]

This study also explored public's perception about DF. The respondents lack exposure to DF despite the DF has been promoted in supermarket chains, private buses and taxis, 287 health facilities throughout Kelantan, the Ministry of Defence, the Election Commission of Kelantan, the Department of Information, the Universiti Malaysia Kelantan and Universiti Teknologi MARA Kelantan.[11]

Another main concern of the respondents was that information conveyed by DF may not translate into actual behavioral change. The mass media are intensively employed in public health with vast sums spent annually for the production and distribution of booklets, pamphlets, exhibits, newspaper articles, and radio and television programs in the hope that three effects might occur: the learning of correct health information, the changing of health attitudes, and ultimately the change of behavior. Changing behavior is the ultimate and highest priority in any public health campaign, but most of the mass media will change knowledge and awareness more easily than behavior. [30]

In a meta-analysis, Shen et al. analyzed the results of 22 studies and concluded that EE messages had a significant small effect on persuasion ($r = .12$) with a slightly stronger effect on health knowledge than on attitudes, intention, and behaviors. This suggests that EE can be more effective in communication health-related information, especially in educating people about a variety of health issues than changing attitudes and behaviors.[10]

Strengths and limitations of this study

To the best of our knowledge, no documented literature has investigated the conduct and organization of DF program (i.e. health promotion delivered in a pharmacy). In this study, a total of nine pharmacy enforcement officers from Kelantan Pharmacy Enforcement Department and twenty three general public participants from three different health clinics in Kota Bharu, Kelantan presented multiple perspective regarding the quality and impact of DF. Two data collection methods (semi-structured interviews and focus group discussions (FGDs)) were used to generate data.

In term of weakness of the study, the respondents had only been interviewed once. Since DF is still being implemented, its progress still needs to be followed and the respondents should be interviewed again after a specified timeframe to observe for changes in their opinions. In addition, the team leader of DF has not been interviewed. The opinions of the team leader will be valuable in order to have balanced views. The second part of our study consisted of interviews of 23 general public. While their opinions gave us very valuable insights into different aspect of DF, they cannot represent and speak for the whole population in Kelantan, Malaysia and other rural residents of Malaysia. Moreover, there is a chance that

reporting bias exists since the interviews were conducted face-to-face which may have put some pressure on the respondents. Future studies may include pharmacists from other settings such as hospital pharmacists or academician pharmacists since they are also involved in health education and their opinions can contribute to the betterment of DF.

CONCLUSION

DF represented an innovative health promotion platform for the Kelantan Pharmacy Enforcement Division. It intensifies the dissemination degree of knowledge and information related to drugs and cosmetics regulations to the public. In general, the public has positive views on DF. This is reflected in their favorable and optimistic comments on DF. However, certain weaknesses have been raised; significant effort must be made to improve the publicity and dissemination of DF to ensure that it reaches the target population and it is used to its optimum potential. The elements of entertainment and comedy provided extra value to education in an interesting and informal way. However, more research needs to be done in order to analyze the actual impacts of DF and to evaluate its effectiveness versus its cost. It is hoped that DF can benefit from this study and more innovations in health education are to be implemented in future.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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