Lessons learned from health and fitness prescription: a Malaysian experience

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Abstrak

Proporsi penderita penyakit kronik meningkat mengikut usia. Pengendalian yang sering dilakukan adalah dengan preskriptif terapeutik dan nasehat klinikal. Namun dengan upaya ini biasanya terjadi komplians yang rendah. Oleh karena itu, upaya preskriptif komunitas dirasakan lebih cocok dan diperkirakan lebih tahan lama. Oleh karena itu, satu paket intervensi komunitas telah dilakukan di suatu sub-urban di Malaysia untuk melihat sejauh mana upaya ini diterima masyarakat dan seterusnya dapat dikembangkan sebagai instrumentasi sosial yang mampu memberikan manfaat biologi dan sosial kepada penderita penyakit kronik. Penelitian menggunakan metode quasi-experimental terhadap kohort orang berusia 45 tahun atau lebih. Subjek dipajankan terhadap pelbagai aktivitas kebugaran yang terjadwal dan bersifat pendekataan partisipatori. Proses pelaksanaan program diamati secara kuantitatif dan kualitatif. Komunitas berpartisipasi positif, 78% di natarnya berusia 45 tahun ke atas. Pada awal penelitian terdapat 47,6% subjek menderita hipertensi, dan 38.4% mengidap hiperkolesterol, 16,8% obesitas, dan 7,1% diabetes mellitus. Sementara kadar aktivitas fisikal 31.0%. Dari sudut proses, pendekatan partisipatori ternyata amat baik dalam usaha memobilisasi komuniti ke arah kesehatan dan kebugaran. Program kecergasan komunitas yang terjadwal adalah satu instrumentasi sosial yang mampu memberikan kebaikan biologi dan sosial kepada penderita penyakit kronik. Di samping itu, juga mampu meningkatkan gaya hidup sehat dan kualitas kehidupan. ***(Med J Indones 2007; 16:39-46)***

Abstract

Proportion of chronic diseases sufferers are increased by age. The usual control measures are therapeutic prescription and clinical counseling. However, its low compliance rate has interfered this effort. Therefore, community intervention can be a suitable prescriptive option to provide a long lasting effect. For that, a package of community intervention has been established in one sub-urban area in Malaysia to observe its acceptability, thus it can be acted as a social instrumentation to bring both biological and social benefits to this group of community. This study used quasi-experimental design on a cohort of elderly citizen aged 45 and above. Respondents are exposed to a mixed and planned prescribed fitness activity using participatory approach. Process involved in program implementation is closely observed both quantitatively and qualitatively. Community participation occurred in a positive and fast mode, with 78% being the elderly people aged above 45 years old. Initial observation revealed that about 47.6% suffering hypertension, while 38.4% hypercholesterolemia, 16.8% obese and 7.1% diabetes mellitus. Physically active members were moderate - about 31.0%. In term of process, participatory approach seems to be very effective to mobilize community towards health and fitness. A planned community fitness program is a form of social instrumentation to bring biological and social benefits to chronic diseases sufferers. It has also useful to promote favorable lifestyle and quality of life of this group of people. ***(Med J Indones 2007; 16:39-46)***

Keywords: *community intervention, community participation, fitness program, disease burden*

It is well known that elderly people are not quite healthy compared to the younger generation.[1] Although most of them are not genuinely ill, but sub-clinical and silent biological changes occurred in their body system could end up with fatal consequences if they are left ignored, not controlled and treated. Evidence has indicated that majority of elderly people have some difficulty to regularly access to medical facilities.[2] This is reflected in the form of poor compliance rate and development of others diseases complication.[3,4]

Elderly folks are also easily deteriorated by all kind of influences that could jeopardize their existing health condition.[5] Couple with higher life expectancy rate and issue of 'live alone' as a result of migration and

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urbanization of the children or perhaps the death of their spouse. All these have placed the elderly people left unattended.

Although there are mushroom of geriatric services all over the world, it is not so in Malaysia. If there are such facilities, most of them are just confined to common services - in the form of welfare and financial support. Comprehensive services especially on health and fitness-related activities are hardly seen or even planned and organized by the respected authorities. However small scale activities such as Tie Chee, Chee Gong and jogging are quite popular leisure activity especially among Chinese folks.

Therefore, it is time to have a well planed comprehensive service to this group of people, with physical and fitness activity being the core of it. Research findings have shown that physical activity could cure most of the biological and psycho-social problems of the elderly.[6-10] They can live independently, capable to make social contribution or even bring benefits to the community.

This paper will share some of the experience gained by Health and Fitness Program for Elderly (HFPE) - one of main health development program developed by Hospital Universiti Kebangsaan Malaysia (HUKM) to group of elderly patients to control their existing biological handicapped they have already suffered, utilizing health and fitness activity through participatory approach. The objectives of this program: (1) to control the existing biological problems; (2) to promote healthy and fitness culture; and (3) to determine the most appropriate and acceptable social instrumentation (community intervention) to affect sustainable change. Experience and lessons learned from this activities will be discussed.

METHODS

This was a community intervention program utilizing quasi-experimental principle in its approach[11]. It was conducted and shared using a partnership and participatory approach – HUKM, Universiti Kebangsaan Malaysia (UKM) Medical Faculty through Department of Community Health, fitness consultant and local elderly association. The elderly association was involved in the endorsement of the activity and assisted in its promotion. They were consulted on all aspects of planning and implementation and give their approval for new direction. All constraints have been shared and discussed together prior to implementation.

All participants were registered membership of the association and also registered HUKM patients. Key leaders of the elderly association were among the first volunteers to participate in the proposed activities, which helped to confirm the association's approval of the program in the eyes of the community members.

At early part of the HFPE, only parameters related to health (biological indicators) were constantly monitored using usual diagnostic kits and charted based on the international acceptable standard of the cut-off value – blood pressure (sphygmomanometer), weight-height (Body analyzer), cholesterol (lipid profile), glucose (blood glucose), and physical activity (frequency of exercise per week). However, parameters related to physical fitness, psychosocial status and group dynamic were introduced piecemeal depending on the availability of testing kits and other resources. In many instances, they were qualitatively monitored. Regardless of their date of entry, all participants participated in this program were kept and reclassified as a single cohort and later put under a uniform standardized observable time scale.

As the main idea of this HFPE is community development on health and fitness, all activities established under it were closely planned, executed, monitored and managed. The activity of HFPE covered three times aerobic exercise per week, health, nutrition and fitness talk, physical tournaments, fitness visits, health and fitness counseling, fitness training and education and fitness forum. More focus was also being given towards process parameters (frequency of fitness activities, intensity, side development, commitment and other group dynamic indicators). Whilst, impact (lifestyle change on individual and group) and outcome parameters (change in hypertension, diabetes mellitus, hyper-cholesterolemia, obesity and other biological indicators) were treated as complementary data.

RESULTS

I this article we will highlight some of the experience gained from execution of this program. The lessons are illustrated based on the following questions.

What indicator should be prioritized and developed?

The HFPE first started in the form of community services provided by HUKM. The scientific approach had only been operational for almost one year. Currently, a total of 501 participants were registered

and continually participated in the program. Of these, about 392 (78%) were fulfilling the criteria of the elderly people (the remaining were participants who were less than 45 years old but eagerly participating in the program). At six months follow-up study, a total 153 participants were constantly active in the cohort, whereas the remaining was fall at two and four observable months respectively (Figure 1).

At entry point, about 47.6% of all cohorts suffering hypertension, while 38.4% hypercholesterolemia, 16.8% obese and 7.1% diabetes mellitus. Physically active members were moderate - about 31.0%. Although number of participants were rather small, some of the health profile especially on hypertension and physical activity revealed quite similar to the profile of whole district (Table 1).

Table 1. Comparative biological parameters of Hulu Langat people aged 45 and above at the beginning of study

Parameter	Baseline data		6 months follow-up
	HFPE	District**	HFPE
Biological	n=392	n=3504	n=153*
Hypercholesterolemia	38.4 %	62.2 %	44.8 %
Hypertension	47.6%	47.5 %	47.4 %
Obesity	16.8 %	32.8 %	16.7 %
Diabetic mellitus	07.1 %	11.5 %	08.3 %
Physically inactive	69.0 %	64.6 %	-

* of 392 registered participants (cohort), only 153 respondents fulfilling at least 6 month follow-up

** District data (for comparison only - based on sample)

Looking at the effect of program as shown in table 1, it was obvious that collectively no significant change has been shown to the health profile of cohorts at six months follow-up; indicating that the biological impact of the program could not easily be assessed through just using single group indicator. Realizing this phenomena, we needed to develop and to use a more appropriate indicator to assess the program effectiveness. In fact, this is the time when we finally decide to complement fitness, psychosocial and group dynamic indicator as an important parameters for program appraisal.

We are conducting community intervention, aren't we?

At early part of program implementation, much more focus were given to biological parameters to reflect the true impact of the program. This was done with the assumption that the intervention was purely clinical in nature - fixed and structured, and the participants were the passive audience. We finally realized that it was not the dark line to be closely monitored, in fact we have to give more emphasis on the dotted line (as shown in figure 2). As HFPE was a community intervention, therefore, emphasis should be given more on the development of favorable antecedent parameters – community commitment on health and fitness behavior. We strongly believed that a desirable biological change could only be observed if the target community were collectively practicing healthy and fitness lifestyle.

We then noticed two groups of appropriate parameters with regard to physical fitness and psycho-social aspect which was silent before should be given equal emphasis (perhaps more) in this study. Apparently, there were a lots of physical fitness and psychosocial parameters could potentially be developed and be used in measuring program effectiveness.

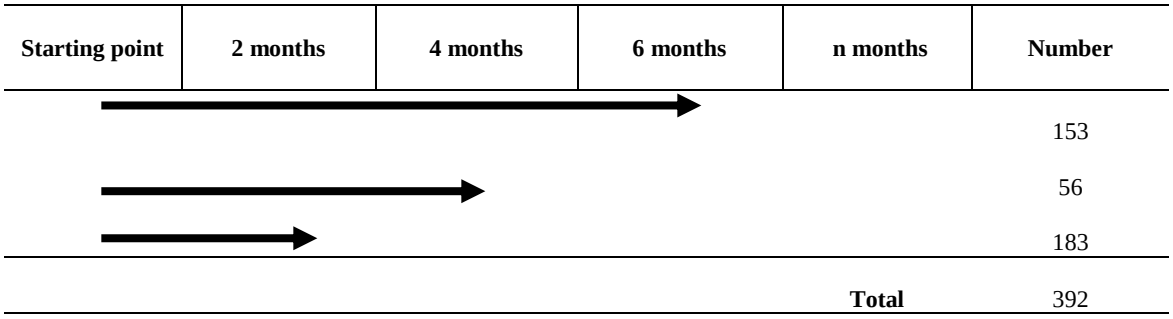

Figure 1. Number of elderly participants in the cohort according to duration of joining

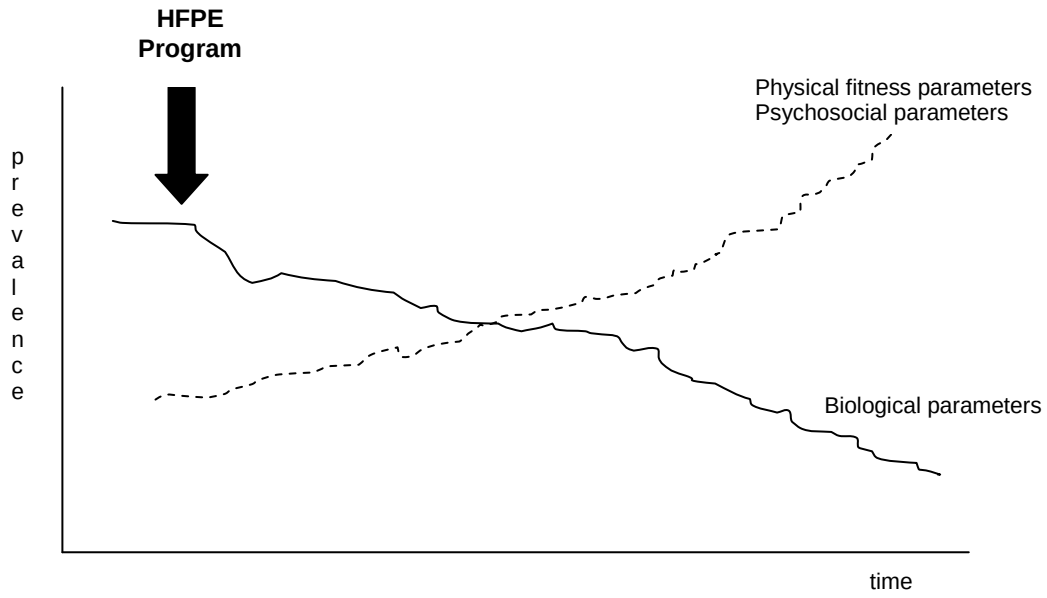

Figure 2. Desirable change as a result of intervention

How to develop and measure psychosocial and physical fitness?

Realizing the important of psychosocial and physical fitness as the determinants of biological health, we have to identify and to decide the most appropriate indicators to be used and the best method to measure it. This was important as it was not properly spell out at the early phase of the study. Although we were able to assess both group of parameters qualitatively, we needed to complement it with quantitative methods to give an overall performance of the participants.

Table 2. Qualitative observation on psychosocial and physical fitness of the participants during 6 month follow-up

Parameter	Qualitative observation*
Physical fitness	
CVS endurance fitness	++
Muscular endurance fitness	+
Body composition fitness	+
Physical flexibility	+
Psychosocial	
Health & fitness knowledge	++
Cautiousness to QOL	++
Individual commitment	++
Mental flexibility	+

* as perceived by the principle investigator; ++ very good; + good

Preliminary observation revealed that a substantial favorable change were noted in some of parameters from both group indicators. This was obvious in CVS endurance fitness, health and fitness knowledge, cautiousness to quality of life (QOL) and individual commitment (Table 2).

Was it easy to team up with community?

We admitted that many community health intervention using participatory and integrated approaches was quite recent and limited. Often, existing coordinated activities and services were poorly run and equipped to appropriately respond to the need of the program. As a consequence, program was not long lasting and sustainable to affect desirable change. Certainly, there was tremendous need for capacity building, shared responsibility, and community leadership development not only in the form of number, but more importantly their commitment, contribution and creativity in making program a good example of social instrumentation toward community development in some selected area. This was identified to be very challenging for us.

As the key success of the program was centered at program management, we felt that the program should account for this challenges and constraints and that partnership concept should be stressed, integrated and constantly incorporated into the program - bringing all the potential resources within the community.

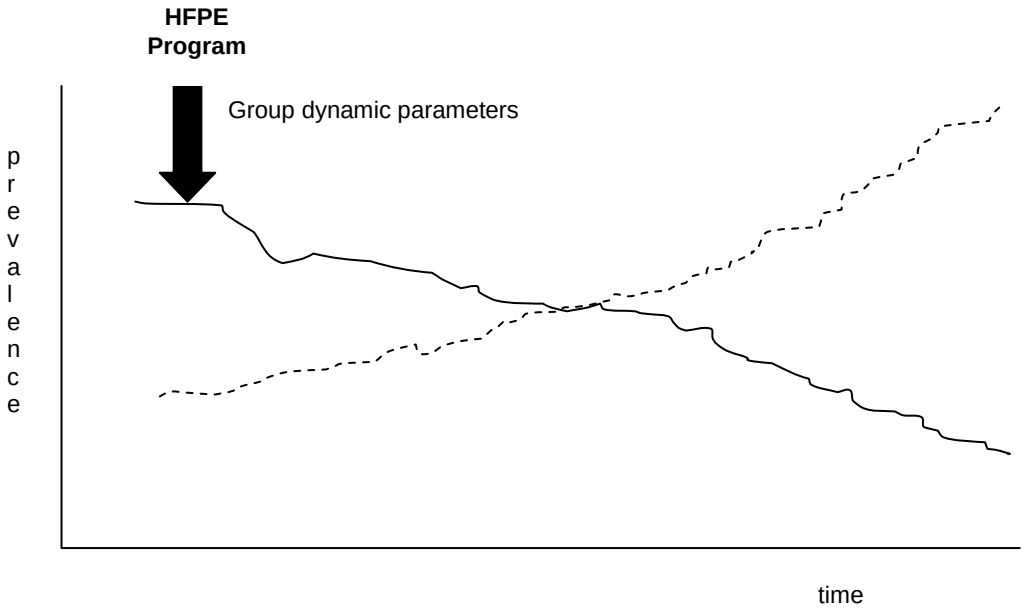

Figure 3. Group dynamic parameters: the other indicator to ensure smooth running of program

We identified managerial activity must be the main focus of this study and need to be strengthened. Fortunately in our case, we did not have much problem in managing this program as a substantial number of community representative were having vast experiences in many socioeconomic development activities. All group activities were proportionately shared and was monitored under group dynamic parameters (see figure 3). Being a dynamic therapeutic program, continue emphasis was being placed on building capacity within the community through strengthening community leadership, managerial skills and group cohesiveness to ensure that community can function independently and become a role model in any community development.

Table 3. Observation made in group activity

Parameter	Qualitative observation*
Group dynamic	
Group cohesiveness	++
Group identity	++
Group fitness lifestyle	+
Creativity and contribution	+
Capability to organize	++
Capability to lead	++
Financial planning	+

* as perceived by the principle investigator; ++ very good; + good

As shown in Table 3, some positif change were also noted in some of parameters. This were obviously seen in group cohesiveness and identity (group modeling). Leadership and organizing capability were so obvious and easily occurred as majority of members were experienced in similar activity and function throughout their past years.

How we mobilize the community?

We managed to identify the group of innovators and early adopters in early stage of implementing HFPE. Started with approximately 50 folks, now it grew up to 500 people. The health and fitness activities were initially carried out as social service by HUKM to the community. As the number was growing and expectation of the community were so great, we have introduced a so called participatory services utilizing a scientific approach in its activity and monitoring.

This intervention occurred in three modalities 1) sharing of resources, 2) therapeutic in nature (health and fitness prescription) and 3) using self reliance concept (community innovation and action).

It was noted that, community commitment was great, easily mobilized and empowered. Compliance rate was good and quite proactive. All planned and scheduled activities were followed including community organization and meeting. The elderly association was quickly developed and formally registered to indicate their serious commitment toward health and fitness activities, and other social economic growth of the elderly people.

Approximately 30 % of the activities were proposed and run by the community. For instance, health and fitness talk, managing place of community activity, managing resource centre, official corresponding with other agencies, physical tournaments, visits, and fund raising. Their role toward this was expected to be increased, and the HUKM role just confined to health monitoring, training and coordinating body.

Their strong commitment toward health was believed to be linked with HUKM as a reputable centre for health in this country. Being a registered patient of HUKM and registered participants of HUKM community health and fitness program, they felt more secure as they were continuously observed and monitored in and out of the hospital by the 'expert'.

How did we differentiate research and community development?

Community intervention tended to be perceived differently by different people. In most cases, it was regarded to be a research - utilizing clinical trial concept. The effect of program was based on the ultimate output at the end of the program.

As the main objective was to promote community toward sustainable fitness lifestyle, some of us strongly opposed to the initial idea, and proposed it to be part of community development initiatives. Our rational was that the program would be there within the community, and the favorable psychosocial and fitness became the key development parameters of success, not solely on the ultimate output – change in some of biological markers as commonly practiced in an experimental study. Therefore, group process became the parameter of concern. All efforts should be geared towards group or community empowerment and action.

Unfortunately, it was not that easy at early stage of the activity as concept of research and development were viewed differently by members. However, we managed to overcome this through several intense discussions among researchers and the community. Through group process, we were able to adopt several group activities using participatory principle in our development. We hoped in the long run and through good integration, Hulu Langat could be recognized to be a model district for community development for health and fitness.

What were the unique things of the elderly people?

There were several 'can' and 'can't' observed from the participants. Of 'can', majority felt quite happy to be part of the hospital study - willingness to be medically examined, providing blood for biological testing, fitness assessment, participating in all activities, meeting, skill development etc. They were quite willing to share and impart their knowledge, skill and experience toward society – thing related to religious function, education, social services, social support and others social contribution. Some of them made a personal contribution to furnish and upgrading their resource centre. In fact, they felt so secure to be part of a responsible group as they were backed by professional people (doctor) and reputed agency (HUKM).

However, being an old citizen, they were quite sensitive about things that could deviate their religious, moral value and principle. Controversial and immoral activities were strongly opposed by the members. This include manner of dressing (not so exposed), manner in aerobic exercise (not mixed between man and women), social gathering (not partisan and extremism) and communication. If there were mistakes being made, remedies were immediately introduced to overcome the issues. However, their manner and conduct was explicitly spelt out in their association constitution.

DISCUSSION

Community intervention is a formal form of prescription in much public health practice. It is actually a structure service that is running in the community setting. Parameter of concern will depend on people's perception of intervention. If the main concern is on outcome, it should be a research. But, if it is more on process, then it should be called community development.

In this study, we view HFPE as a community development program. Therefore our concern is more on its process parameters. Although outcome indicators such as prevalence of hypertension, obesity, hyper-cholesterolemia, diabetes, physical activity and others alike are important in any intervention research, but parameters of group activity are even more important as they really measure the process occurred within group. This is our way to measure success of the program. If group process sustainable within community, it can be a detrimental for morbidity and mortality change.[12]

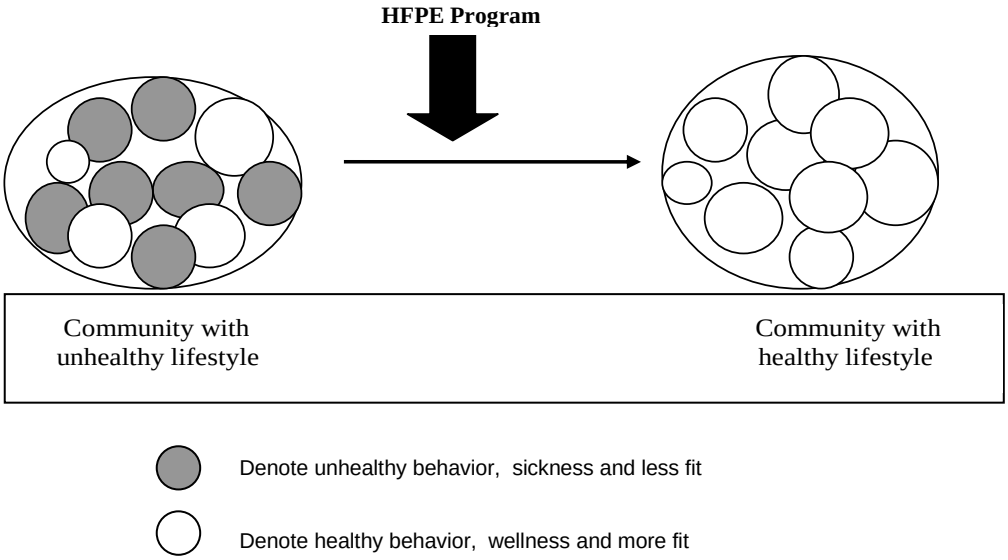

Figure 4. HFPE program acts to modify unhealthy behavior, minimizing sickness and reinforce favorable behavior

HFPE program is developed to affect social change among Hulu Langat folks. It is an effort to create a total healthy lifestyle and later a new culture to this group of society. This indirectly helps in controlling the existing biological defect and unhealthy behavior occurring whether in their body or within their group (Figure 4). Process of community mobilization involves all sorts of activity that is responsible to modify the unhealthy behaviour and other ill-health conditions. At the same time, it also reinforces that behaviour that is already favorable within them. It is partnership approach utilizing participatory principle, community empowerment, capacity building and sharing responsibility.

Community endorsement to the program is very importance in legitimizing and promoting sustainable healthy and fitness culture in the community. This will ensure a steady growth in program implementation as it can easily be supported both financially and politically. Indirectly, it helps the program manager to freely execute the activity without interruption as commonly observed in most public services.

Lesson learned from this study has enabled us to redesign and restructure the intervention in line to the social need without running from its scientific principle. It is very important that all activities be easily conducted by the community with minimal supervision. Socialization process that is continually occurred throughout participatory activities certainly acts as learning opportunity for members to adopt new lifestyle that is capable to affect health and quality of life. This approach has strongly advocated by health promotion players especially WHO health promotion initiators.[13]

One major lesson learned from this program is that it is important to build-on thrust and also to take care the community expectation and hope. As many activities are in line toward community development, it is no doubt some elements of economic gain could also be generated from sponsorships and sales. Excess in revenue will certainly very helpful for program development and expansion.

CONCLUSION

Initial evaluation indicateps that a well-determined participatory intervention can have a major impact on health and fitness for both individual and group of elderly population. This kind of community development not only leads to reducing major chronic diseases, promoting of health and quality of lifestyle, but most importantly it helps to socialize and mobilize community

towards health. Community program like HFPE should be adopted as an alternative prescription in controlling some of chronic problem beside normal clinical prescription.

It is important that community intervention be viewed as community development program, where effort must be geared more towards group process rather than looking merely at the group outcome. Favorable group activities in the form of group dynamic, psychosocial enhancement and grouping lifestyle shall indicate the success of the program, provided it is properly leaded and executed. We believe if the program is carefully developed and managed, the success of the program can be guaranteed. HFPE are among community health development models that are being tested, hoping that this program shall be utilized as a social instrument for community development. This is the essence of community health development strategy we are advocating.

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