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# Pharmaceutical Care of People in the Community for the Recognition Rate and the Pharmaceutical Service Satisfaction Study

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# Abstract

2009 Taiwan long-term care needs of 35 million people, if the medication through the pharmaceutical care of patients involved, the average monthly NT 324 per person for medicine to reduce the overall area will be able to reduce the billions of dollars. This study, through home visits survey, different villages, cities and towns the public health education before and after, drug awareness rate and differences in service satisfaction. This study show that during pharmaceutical care, the community and the public about safer drug use and the rate of environmental awareness and satisfaction, there is a substantial upgrade and improvement.

#### Keywords

Pharmaceutical care; Pharmaceutical recognition rate; Service satisfaction

#### **1. Introduction**

Advances in medical technology, population aging rapidly, making medical care service demand and rapid increase in medical care expenditure, but with increasing age, body functions gradually decline, there will be more than one disease may lead to suffering, so need to take treatment of various of different diseases. According to the Taiwan national health insurance bureau statistics, people in Taiwan have an average of 3 per prescription medication, elderly people because of multiple chronic diseases, use of drugs as much as more than 10 kinds of species; national health insurance since 1995 apply to the present, drug costs from NT 200 billion in 2008 to grow to NT 1100 billion, the people of Taiwan dosage is 7.2 times the USA public, which also caused the rate of the Taiwan people on dialysis as the world first important factor (Pharmacist week, 2009).

Taiwan announced new drugs were founded in 2007, the new pharmaceutical care-related businesses engaged in long-term care by pharmacists pharmaceutical services to investigate whether patients with repeated drug use or treatment of taboo issues, and then make the appropriate assessment as well as the efficacy of monitoring at the same time put forward proposals to resolve drug therapy problems (Liu, 2007). Taiwan Department of Health, Executive Yuan and subsidies have also implemented the county and city public health bureau, to host the 2008 "Community pharmaceutical care and health promotion" project in the hope of laws and policies, under the impetus of drugs can reduce the number of patients and adverse drug reactions occurred, thereby providing patients with a safe and healthy environment, medication (Department of Health, Executive Yuan, 2009). In order to reduce resource consumption of drugs use and maintenance of people health, understanding the community people for the

pharmaceutical care pharmaceutical perceptions and satisfaction with the services provided is a very important topic. Therefore, this study through a home visit a questionnaire survey to assess the visits before and after health education, drug awareness rate and service satisfaction surveys, to understand the different villages, urban communities, the people of the community awareness of pharmaceutical care and the services provided by satisfaction.

## 2. Literature review

## 2.1 Definition of community

Communities from the Latin language Communis, means a group of people living in a certain context, they share a common consciousness and activity sites, as well as the natural formation of a common goal with other regions in terms of geographic (Chiang, 1987). Community is a group of people occupy a certain region will be as professional, social and cultural differences caused by a variety of natural unity, territorial, they will and their own survival of the regional phase of the fit, but there is a mutual interdependence (Tsai, 2000).

#### 2.2 Pharmaceutical care

Pharmaceutical care is the direct care pharmacist people in drug treatment of professional conduct, pharmacists responsible for drug evaluation, development and implementation of effective follow-up care plans and to ensure that patients are in line with indications of drug therapy to achieve effective, safe, and with the degree of high, thus increasing the population quality of life. Therefore, the pharmacist professional services is to identify which patients with drug therapy problems, and with medical staff and patient communication to solve problems, thus enhance the medical effects as well as increasing drug safety. In addition, pharmacists into the patient through the use of a drug kit homes will be re-packaged and education advocacy, which will increase with the degree of patients who took drugs to enhance safety and improve efficacy of drugs

#### 2.3 Pharmaceutical cognitive

Cognitive, psychology refers to the activities of individual consciousness through the awareness and understanding in things psychological process (Renumbering the Ministry of Education mandarin dictionary revised, 2007). Simple explanation, cognition is the human brain, the message handling process, including: attention, perception and recognition, memory, learning, reading, speaking, listening, problem solving, planning, reasoning, decision-making (Chen, 2009). So far, the study questionnaire by home visits to investigate community pharmacists to conduct the people on the pharmaceutical care pharmaceutical care pharmaceutical care before and after its experience on the on the recognition, and to use statistical analysis to derive the before and after the cognitive the existence of differences in the rate.

#### 2.4 Service satisfaction

Satisfaction is an individual motivation, motivated by physical or mental act, is a pursuit in achieving the objectives arising from an intrinsic state, or that when an individual desires to achieve a psychological experience (Chang, 1989). Medical services, industries and other services in the stimulation, value judgments, reaction and interaction of individual differences are relatively large differences between the differences in satisfaction tend to be subject to equipment, personnel, service attitude, medical technology, care, etc. effects (Yu, Ting, and Su, 2006).

Satisfaction is a service process, measurement, can understand a patient health care experience, and promote cooperation and treatment, and can confirm that health care issues, and evaluation (Sitzia and Wood, 1997). Larson, Rovers and Mackeiga (2002) study of a development in the pharmaceutical care satisfaction survey an effective tool, found satisfaction with pharmaceutical care can be warm and friendly attitude of the explanation, such as the friendly care and drug counseling; and treatment management , for example, medication therapy management and answer questions to assess the amount of two dimensions. This study of satisfaction part of the study, that means the supply of pharmaceutical care services, to explore whether this project was provided services, and assess the level of satisfaction is divided into "VD (Very Dissatisfied)", "SD (Somewhat Dissatisfied)", "N (Neutral), "SS(Somewhat Satisfied), "VS(Very Satisfied)" with the way the five class options to conduct satisfaction assessments.

## **3. Research Methods**

This study is mainly through home visits by a survey questionnaire satisfaction with a five-point Likert scale mainly to assess the various villages, urban communities, pharmaceutical care of people in the visiting health education before and after the drug recognition rate and satisfaction surveys. First, the first pre-and post test questionnaires

after recovery of the order, then the use of descriptive statistical methods to identify the number of distribution and the percentage of questionnaires in order to understand the different between men and women recover data, age, occupation and other distribution, followed by the use of independent-samples t test to compare a set of samples with a certain value, the average difference between the (one sample test), or an average of two samples whether differences exist between the (two sample test), and the corresponding values to determine whether a continuous and independent event features, then analysis of pharmacist care before and after, the community public awareness for the pharmaceutical rate and service satisfaction whether there are significant differences.

# 4. Data Analysis and Interpretation

In this study the majority of the study questionnaire for older persons of the total 70%; fill in a questionnaire of this study majority of those living in rural areas, vocational side are those who are more engaged in the agricultural sector. In addition, the study questionnaire on four topics for the option (1) pharmacist and sincere treatment of you; (2) pharmacists to help resolve the issue of the use of drugs and treatment of disease; (3) the drug problem will first seek the advice of the community pharmacist; (4) community pharmacists to the home service allows you to use drugs more secure, before and after the test results for independent samples t test analysis, the following analysis lists 3, 4, 5, 6 follows:

Pre-test and Post-test		Number	Mean	Standard Deviation	P-value	
(1)	Pre-test	138	18.3913	33.85983	0.112	
	Post-test	138	12.5725	26.46934	0.113	

Table 1: Each time to find the community pharmacist, he is very sincere towards you

Pre-test and Post-test		Number	Mean	Standard Deviation	P-value	
(2)	Pre-test	138	18.1449	33.96468	0.120	
	Post-test	138	12.5580	26.47489	0.129	

Table 2: Community pharmacists can help solve the problem of drug use and disease treatment

Table 3: When you have a drug problem, it will first consult the community pharmacist thought

Pre-test and Po	Pre-test and Post-test		Mean	Standard Deviation	P-value	
(2)	Pre-test	115	3.8696	.96901	0.000	
(3)	Post-test	126	4.2937	.87697	0.000	

Table 4: Community pharmacist to the house to help organize drug, allowing you to safer use of drugs

Pre-test and Po	st-test	Number Mean Standard De		Standard Deviation	P-value	
(4)	Pre-test	128	3.2500	.93909	0.001	
	Post-test	136	3.6324	.93340	0.001	

From the tables 1, 2, 3, 4 and sincerity to know the community pharmacists (p = 0.113) and community pharmacists to help resolve the use of drugs and disease treatment (p = 0.129) were all there was no statistically significant difference, so that community pharmacy do attitude and to help local residents the use of drugs and disease treatment are all doing a very good; when you have a drug problem, it will first consult the community think of pharmacists (p = 0.000) and community pharmacists to the house to help organize drug, allowing you to safer drug use (p = 0.001) were all statistically significant difference, so it two options that topic during pharmaceutical care, the community and the public awareness of the rate for the pharmaceutical affairs will be improved.

This study also analyzes the pharmaceutical care services community satisfaction surveys before and after the test the difference, followed by further independent samples t-test, the results obtained are shown below in table 5, 6, 7,

8, 9, 10 the question options (5) community pharmacists introduction or guide to make you a better understanding of their medicines; (6) community pharmacists help establish personal records of long-term use of drugs; (7) community pharmacists to help organize your home, drugs make you more secure medication; (8) of the current transfers of national health insurance prescription pharmacy in all villages, towns and use of the distribution of satisfaction; (9) can increase the release of prescription drug use for medical treatment people safety; (10) on the whole your community pharmacist satisfaction with the services provided.

Pre-test and Post-	test	Number Mean Standard Deviation		P-value	
(5)	Pre-test	114	4.0439	.70886	0.000
(5)	Post-test	132	4.4167	.69942	0.000

Table 5: Community pharmacist's introduction or guide to make you a better understanding of their medicines

Table 6: Community pharmacists help establish personal records of long-term use o							
Pre-test and Post-test		Number	P-value				
(6)	Pre-test	91	3.9011	.66758	0.006		
(6)					0.000		

118

Post-test

Table 7: Community pharmacist to the house to help you organize pharmaceutical drug use is more secure

4.1864

79474

Pre-test and Post-t	æst	Number	Mean	Standard Deviation	P-value	
(7)	Pre-test	99	3.9798	.62237	0.001	
(7)	Post-test	122	4.3033	.80175	0.001	

Table 8: Regulating prescription of pharmacy in all villages, towns and use the distribution of satisfaction

Pre-test and Post-	test	Number	Mean	Standard Deviation	P-value
(8)	Pre-test	111	3.7117	.88818	0.068
	Post-test	120	3.9250	.88082	0.008

Table 9: Prescription releas		

Pre-test and Post	-test	Number	Mean	n Standard Deviation P-valu	
	Pre-test	116	3.8879	.84206	0.000
(9)	Post-test	124	4.3468	.76556	0.000

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Table III ( Warall the community	nharmacist	VOUR contestaction	with tho	CONVICOR NOVI	dod
Table 10: Overall, the community	Dharmacist	voui salistaction	with the	501 11005 111011	ucu

Pre-test and Post-	test	Number	Mean	Standard Deviation	P-value	
(10)	Pre-test	119	3.9328	.86093	0.000	
(10)	Post-test	132	4.4091	.80981	0.000	

With the table 5, 6, 7, 9, 10 know, community pharmacists for your use of drugs for drug introduction or guide to make you more aware of their drugs (p = 0.000), community pharmacists to help create a personal record of long-term use of drugs (p = 0.006), community pharmacists to help organize your home, drugs make you a safer drug use (p = 0.001), prescription release can increase people use of drug safety for medical treatment (p = 0.000) and on the whole you are right services provided by community pharmacists satisfaction (p = 0.000) were all statistically significant results. Said the local residents, after conducting pharmaceutical care for the safety of the use of drugs and various services, the community pharmacist assistance and the use of prescription drugs can all do to enhance

the community care of people satisfaction. But, it is noteworthy that the six items in table 8 except the only prescription is currently regulating the health-care pharmacies in all villages, towns and use of the distribution of satisfaction with course pharmaceutical care pharmaceutical care before and after, and did not reach statistically significant difference (p = 0.068). Therefore, the results of this study said that the progress pharmaceutical care, the local residents to sign for the swap side of health care everywhere in pharmacies in all villages, towns, distribution and use, they were not allow local residents have full feelings.

# 5. Conclusions and Recommendations

This study aimed at people in the community through the pharmaceutical care that before and after the recognition rate of satisfaction for research. The study results can tell, the community people in the receiving community care after the drug thing, something for the community pharmacy has a substantial understanding of the rate which increase and recognition, community and the public for the use of drugs and disease treatment and safe environment and other issues will be able to improve , and the next when the community and the public have any drug problem will first consult the community pharmacist. Furthermore, community pharmacists provided by the public for knowledge and guidance to assist the use of drugs and other acts, all showed satisfactory. In addition, if medical related units to the release of source side to sign, but also enhance the community and the public service satisfaction.

Community residents, after receiving pharmacist care of regulating the health insurance prescription pharmacy in all villages, towns distribution and use, do not feel fully satisfied. Cause this difference is due to the general public most want to tell through the current condition and status of physicians, it would have been receiving drug treatment hospital pick up, with few people will take the swap with the physician sign the local health pharmacy prescription pick up drugs. This study suggests that community pharmacists should do more for the community people to pharmaceutical care services and education and advocacy to enhance public awareness on the pharmacist's rates and service satisfaction and improve the penetration rate of prescription transfers.

#### References

- 1. Chiang, L. Y., 1987, Summary of Social Work, Wu-Nan, Tpiper.
- Department of Health, Executive Yuan, 2009, Pharmaceutical Care Community Health Building, program evaluation http://www.doh.gov.tw/CHT2006/DM/DM2\_p01.aspx?class\_no=24&now\_fod\_list\_no=10406&level\_no=2&d
- oc\_no=70802. 3. Yu, T. K., Ting, C. Y., and Su, C. T., 2006, "An Analysis for the County of Yunlin Health Center's Service
- Quality Indices", Journal of Public Administration, 19, 55-89.
- 4. Tsai, H. H., 2000, social work dictionary, 4<sup>rd</sup> Edition, Ministry of The Interior, Taipei.
- 5. Chang, C. H., 1989, Chang Dictionary of Psychology, Tung-Hua, Taipei.
- 6. Renumbering the ministry of education mandarin dictionary revised, 2007, http://140.111.34.46/newDict/dict/index.html.
- 7. Chen, C. H., 2009, Interaction Design Beyond Human-computer interaction, 2<sup>rd</sup> Edition, Chwa, Taipei. Original work published 2007.
- 8. Liu, H. C., 2007, pharmaceutical care training ready to go, pharmacist weekly newsletter, 1523.
- 9. Pharmacist weekly newsletter, 2009, federation of pharmaceutical care for all long-term care insurance system should be included in official statement, will the lack of pharmaceutical care alone according to how long the security sheung?, 1618.
- 10. Larson, L. N., Rovers J. P., and Mackeigan, L. D. (2002). Patient satisfaction with pharmaceutical care: Update of a validated instrument, Journal of the American Pharmaceutical Association, 42(1), 44-50.
- 11. Sitzia, J., and Wood, N., 1997, Patient satisfaction: A review of issues and concepts, Social Science and Medicine, 45, 1829-1843.