Effect of an Educational Program on Knowledge and Self-Efficacy of Patients with Essential Hypertension toward Therapeutic Regimen

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ABSTRACT:

Background: Essential hypertension forms a major public health problem in the world. Education of hypertensive patients is critical and necessary in preventing hypertensive complications whereas increase level of knowledge and improve their self-efficacy. **Aim of study** was to evaluate effect of an educational program on knowledge and self-efficacy of patients with essential hypertension about therapeutic regimen. **Subjects and methods: Research design**: A quasi experimental research design was used in this study **Setting**: This research was carried out in the outpatient clinic at Medical Specialized Hospital, Mansoura University. **Subjects**: A purposive sample of 120 adult patients with essential hypertension from both sex, aged 30-60 years and on antihypertensive treatment were recruited for the current study. **Tool of data collection:** Data collected through; assessment of patients' socio-demographic characteristics, Hypertension Knowledge Level Scale, Hypertensive Self-efficacy Scale, andMedication Adherence Self-Efficacy Scale. **Results;** Improved patients' knowledge, and their self-efficacy toward therapeutic regimen post implementing program with highly statistically significant difference with $P \leq 0.001$. As well; the findings showed a highly positive correlation between patients' knowledge, and their self-efficacy. **Conclusion and recommendations:** The educational program can be effective in the management of hypertensive patients through improving their related knowledge, and their self-efficacy toward therapeutic regimen. It is recommended to clarify the impact of educational program and lifestyle guidelines on clinical practices and patient outcomes. As well provide standard guidelines as practical work tools for nurses working in out-patient services.

Keywords: Essential Hypertension, Patient Education, Knowledge, Self-Efficacy.

Introduction:

Essential hypertension (HTN) is a major health problem throughout the world because of its high prevalence and its association with increased risk of cardiovascular disease (CVD) ***(1)***. Up to three-quarters of the world's hypertensive population will be in developing countries by the year 2025, and in Egypt, the prevalence of HTN is 26.3% with low rates of awareness, adherence and control(37.5%, 23.9%, 8%, respectively) ***(2)***. Poorly controlled HTN is a significant public health concern all over the world, in term of morbidity, mortality, and economic burden. It is the leading and most important modifiable risk factor for heart diseases, stroke, renal diseases and retinopathy ***(3, 4)***.

Knowledge involves information and skills acquired through experience and education. Previous investigators reported that increasing knowledge about HTN and its treatment relates to higher compliance to the treatment regimen as well as to the overall success in managing this disease ***(5)***. Understanding people's levels of knowledge about HTN might contribute effectively to nurses' efforts to prevent, treat, and control the disease.

Self-efficacy is widely used as psychological concept that has been recognized as an essential prerequisite of effective care of chronic disease. Measuring the self-efficacy in patients with HTN is an important step towards improving HTN control in

individuals or population level. The information gained from measurement of self-efficacy can help physicians or public health professionals to identify low self-efficacy and implement suitable interventions [6].

Health education is a concept directly linked to health promotion in both clinical and educational preparation fields. Health education increases individuals' knowledge of health care and makes them informed about their health care choices. Patient education has been increasingly recognized as a standard component of patient's care and an integral part of chronic disease management, particularly in self-management conditions[7].

Nurses can play an important role in facilitating patient's self-efficacy to the prescribed treatment regimen. As they responsible to help patients gain knowledge, skills to live with and control HTN [4].

Significance of the Study:

Increased blood pressure remains one of the greatest health and economic issues facing the world which leads to various complications [8].

Based on previous studies, it was found that there are positive correlations between controlled BP and treatment self-efficacy in hypertensive patients; as well many patients did not have appropriate knowledge about HTN [9, 10].So, there is an essential need to conduct this study to evaluate the effect of an educational program on knowledge, and self-efficacy of patients with essential hypertension toward therapeutic regimen.

Aim of the Study:

This study was aimed to: Evaluate effect of an educational program on knowledge and self-efficacy of patients with essential hypertension toward therapeutic regimen.

Research Hypothesis:

H_1-Knowledge mean scores of patients attending educational program will be better than before the program.
H_2- Patients' self-efficacy mean scores who follow educational therapeutic regimen will be better than before .

Subjects and Methods:
Research design:

A quasi experimental research design was used in this study.

Study setting:

The study was conducted at the cardiac outpatient clinic at Specialized Medical Hospital, Mansoura University.

Study Subjects:

A purposive sample of 120patients with essential hypertension aged 30-60 years and on antihypertensive treatment, for at least one year was recruited for this study. The exclusion criteria: Patients who unable to communicate and have any chronic liver disease, chronic kidney disease, and valvular heart disease.

Tools for Data Collection:

Three tools were used for data collection:
Tool I: A structured Interviewing bio-sociodemograghic characteristics: This tool was developed by the researcher and included two parts: first part**:** sociodemographic data**:** included age, sex, marital status, educational level, occupation, and monthly income. Second part**:** was for medical history included: patient's present, past, and family history.

Third part**:** patient's clinical measures including; measuring blood pressure and BMI.

Tool II: Patients' knowledge assessment structure interviewing questions: included two parts: Part 1:Hypertension Knowledge Level Scale (HK-LS): It was adapted by the researcher from Erkocet al [(11)]**;** the scale consists of 34 items with six sub-dimensions as definition, etiology, medical treatment and complications of hypertension, as well as the attitudes and behaviors about drug compliance, diet, and their lifestyle Part 2: developed by the researcher and consisted of 4 closed ended questions about hypertension, such as: signs, symptoms, its causes, risk factors, and precautions of measuring blood pressure. The score one was given for each correct answer and zero for incorrect or don't know statements. These scores were converted into a percent score. The total knowledge score of each item was considered satisfactory if the percent score was 50% or more and unsatisfactory if less than 50% based on statistical results.

Tool III: including two parts:

a) The Hypertensive Self-efficacy Scale (HSES):It was modified from the Chronic Disease Self-efficacy Scales which developed by Lorig et al. [(12)], and adapted by the researcher to assess self-efficacy of patientsand measure an individual's belief that they can manage their chronic condition.It consists of 34 items; that covers several domains that are common across many chronic diseases: symptom control, role function, emotional functioning and communicating with physicians. The responses to all items of this section were on a 10-point scale (1-10); withresponse options ranged from1 as "not at all confident" and 10 with "totally confident." with a maximum score of 340 and minimum 34. The scores of the items of each part and category were summed-up and the total divided mean score.The score of each item was considered higher self-efficacy if the percent score was 65% or more and lower self-efficacy if less than 65%.

B) Medication Adherence Self-Efficacy Scale (MASES): This scale was constructed byOgedegbe et al [(13)] consisting of 25 items used to assess patients' confidence in their ability to take their antihypertensive medications in a variety of situations. It was also adapted by the researcher in simple Arabic language to be easy for patients' use.

Scoring system:

Items were scored from 1 (not at all sure) to 4 (extremely sure) with a maximum score of 100 and minimum 25. The total score on the measure is computed by averaging across responses to all items, giving a mean score. Higher scores indicate a high level of self-efficacy and lower scores indicate a low level of self-efficacy.

Content validity and reliability:

It was ascertained by seven jury of expertise from medical and nursing staff and necessary modifications were done.The reliability of the tool (2) were done whereas Cronbach's Alpha equal 0.808 as well the reliability of the tool (3) was tested using the internal consistency method. It is proved to behigh with Cronbach's alpha reliability coefficients(0.886).

Field work:

Data was collected through a period of one year from August 2014 to July 2015. Three days/week from 9 AM to 12.30 PM. After explanation the purpose of the study to the patients who agreed to participate in the study.

The study was conducted through four main phases: 1) assessment; 2) planning, 3) implementation and 4) evaluation.

A. Assessment phase:

This phase aimed to assess the studied patients' characteristics, patients' knowledge level and their self-efficacy toward therapeutic regimen. Each adult hypertensive patient was interviewed individually before applying the planned program to collect the baseline patient's data using all study tools.

B.Planning phase:

Educational program was planned and developed based on the findings of the assessment phase, and in the light of related literature. Program was designed to improve patients' knowledge, and their self-efficacy toward therapeutic regimen. The program stressed on improving patient's knowledge regarding hypertension. It included the following items as illustrated in the patient's booklet: identifying of hypertension, normal value of blood pressure, classifications, its types, causes, risk factors, investigations, signs and symptoms, diagnosis, complications. It also enclosed the explanation of the pharmacological and non pharmacological therapy for HTN.

The intervention also covered the importance of self-efficacy practice toward therapeutic regimen, which emphasized on eating sensibly, reducing salt, fat, caloric and sugar intake, regular follow-up with the physician, exercise regularly and reducing weight, stop smoking, compliance with prescribed medication and do daily aerobic exercise, the importance and means to measure Body Mass Index (BMI) and the method of measuring blood pressure. Teaching methods were selected to suit teaching of small groups in the form of lectures, group discussion, brain storming, demonstration, and re-demonstration to facilitate comprehension and integration of theory and practice. Also teaching media were prepared as power point presentations, CD films, colored posters, and booklet that covered theoretical and practical information.

C. Implementation phase:

Each patient with essential hypertension in the study subjects or one of their families in the outpatient clinics of the previous hospital received the developed educational program according to their needs and suitable for their level of understands. The session's numbers were three sessions per week for each patient and continued until patients or their relatives become more satisfied with the provided knowledge. Each session lasted for around 30-35 minutes. Each patient received 4 sessions. In each session the researchers used face to face teaching methods in order to achieved the proposed goal and allow patient to asking, discussion and reach high level of understanding. Each session divided into two parts (first part take around 25 minutes concentrated on theoretical knowledge and second part take around 10 minutes for discussion, asking and answering any question). During these sessions researcher used illustrations, examples of objects, lectures, and pamphlet and power point presentations.

Regarding practical sessions: it were 8 sessions according to patients or their relatives' level of understanding for the given skills, each session lasted around 45 minutes, during it patients and/or one of his/her family learn how measuring weight, height, BMI, how to prepare

the appropriate diet (types and amount). In addition to learn relaxation technique practices as how done muscle relaxation, imaginary technique and the meditation therapy. And also the technique of measuring blood pressure. Instructional booklet was given to each patient or his relatives to attract his/her attention, motivate his/her, and help for reviewing at home and support teaching at home.

D. Evaluation phase:

Two evaluations were conducted for each patient in the study; first one was at the beginning of the study as a base line data for developing the educational program according to patients' needs. Second evaluation occurred immediately after completion of the program to detect the effect of program on patients' level of knowledge, and their self-efficacy to hypertensive regimen using the study tool II and Tool III.

Pilot study:

A pilot study was carried out on 12 patients with essential hypertension (10% of the sample) to test clarity, objectivity and applicability of the study tools as well as estimation the time taken in data collection. Required modifications were done in the form of corrected or added some questions as needed. Patients' involved in the pilot were excluded from the study.

Administrative & Ethical Considerations

The researcher obtained Patient's informed verbal consent to participate in the study after explaining the study aim and phases. Patients were knowledgeable about their rights to refuse or withdraw, and about confidentiality of the information obtained. The study measures could not cause any risk effect on patients. Professional help was provided by the researcher to them as needed. After explaining the aim of the study an official approval was obtained from the director of the hospital.

Statistical analysis:

Data was analyzed using SPSS (Statistical Package for Social Sciences) version 15. Qualitative data was presented as number and percent. Comparison between groups was done by Chi-Square test. Wilcoxon singed ranks test was used for comparison within group. Quantitative data was tested for normality by Kolmogrov-Smirnov test. Normally distributed data was presented as mean ± SD. Paired t-test was used for comparison within groups. Pearson's correlation coefficient was used to test correlation between variables. $P < 0.05$ was considered to be statistically significant.

RESULTS:

Table 1: shows the characteristics of the studied subjects 46.7% of them were within age group 50 - < 60 years with mean age 48.50 ± 7.89 years. 54.2% of the studied subjects were females, and 75.0 % were married. In addition to;54.2% of the studied subjects had not enough monthly income and 68.3% of them were from rural areas.

Table 2: demonstrates the medical health history of the studied subjects 75.8% of them had positive family history of hypertension with 78.1% first degree of relativity, 44.2% of them had hypertension since one year to less than five years with mean duration 5.82 ± 3.56 years. The table also shows that 67.5% of the studied subjects had discovered hypertension with symptoms, 80.8% of them used one type of medication for treating hypertension and 19.2% of them used

two types. In addition to;63.4% of them had both non-pharmacological and pharmacological treatment as regimen prescribed.

Table 3:shows the comparison of mean blood pressure and BMI of the studied subjectsPre/Post Program that there was a slight decrease in systolic blood pressure and diastolic blood pressure post program 145/89 relative to preprogram 152/94. These differences were proved to be highly statistically significant ($p < 0.000$). The table also illustrates that there was highly statistical significant differences in relation to BMI of the studied subjects pre and post program ($p < 0.000$).

Table 4: illustrates patients' satisfactory knowledge about hypertension pre/post programthat there was a highly statistically significantimprovement in total knowledge scores pre/post program with $p<0.001$. There was only 15.8% of the studied subjects had satisfactory knowledge scores pre-program, while 80.0% of them had satisfactory knowledge scores post program.

Table 5: reveals patients' self-efficacy to hypertensive regimen pre/post program that there was a highly statistically significant difference between total self-efficacy score pre/post program with p value <0.001. As clarified from this table, only 9.2% of the studied subjects had higher self-efficacy to different therapeutic regimen pre-program, while 67.5% of them had higher self-efficacy to hypertensive regimen post program.

Table 6: shows relations between total knowledge scores and their total self-efficacy scores pre/post program. There were highly statistically significant relations between patients' knowledge, and their self-efficacyto different areas of treatment regimen pre/post program. The higher knowledge scores the higher self-efficacy level.

DISCUSSION:

Hypertension progressively and permanently damages target organs, leads to life-threatening complications and death [(1)]. A lack of knowledge about hypertension negatively influences patients' awareness and behaviors and is a major obstacle in controlling the disease; as well the poor control of high BP is attributed to poor patients' self-efficacy with the treatment regimen [(14, 2)].

Patient teaching is the most effective strategy and the cornerstone for any successful intervention addressed to improve self-efficacy, whereas increasing knowledge through educational interventions on treatment can positively influence patients' beliefs about medications and changes in lifestyle [(15)].

The main finding of present study was the success of implementation the program in control BP which revealed significant decline in systolic and diastolic blood pressure among patients. This may be justified by the fact proven in this study that lifestyle patterns correlated significantly with control of systolic and diastolic blood pressure which means that high adoption of healthy lifestyle associated with better blood pressure control.

The previous findings are consistent with the findings of Weheida et al [(16)] in Egypt, who reported reduction in blood pressure measurement in the study group after walking and breathing exercise intervention at 4 and 8 weeks follow up. These also confirmed by a study conducted by Park et al ,Ogedegbe et al [(17, 3)].In the same line a study conducted on lifestyle modifications *by Rigs by Hong* [(18, 19)], which has provided strong evidence that a variety of lifestyle modification interventions affect lower BP and to reduce the incidence of HBP.

In relation to body mass index of the studied sample, the findings of

this study found that there were highly statistical significant differences of BMI for studied subjects. This may be due to the change in body weight would be expected on a long-term basis, and not within the two to three-month follow-up period of the present study.

Obesity and overweight are important risk factors contributing to the development of hypertension. This result goes in the same line with Gajewska et al. Achienget al[20, 21], who found that the same results. But these findings are in disagreement with Abed & Abu-Haddaf[22], who found that insignificant differences of BMI for studied subjects.

An important component in the treatment guideline for hypertension is the recommendation for patients' education. Patients' education is an important strategy in improving self-efficacy and can be seen as foundation of most patients focused intervention [23].The present study showed that implementation of the educational program was improved knowledge of post program comparing to preprogram with highly statistical significant difference. This result was in congruence with Mersal& Mersal, Al-Wehedy et al[4, 24]who illustrated that lifestyle modification session improved the knowledge scores of the studied subjects of hypertensive patients with highly statistical significant difference between two groups. On the same line, a study done in China by Yang et al [25]which was conducted for 25 day health education about hypertension, revealed that the overall knowledge of all patients received the educational program were significantly improved after the program.

Patients with higher self-efficacy levels are more likely to start or maintain a specific task even in face of existing barriers. Several self-management programs successfully targeted self-efficacy resulting in improved health outcomes [26]. This present results showed that implementation of the educational program enhance self-efficacy of study group whereas, after implementation had an adequate level of total self-efficacy with high statistical significant difference between them.

This results were in consistent with a recent study measured the effect of written health educational materials on self-efficacy found that providing Personal Health Record Booklet were promoted patients efficacy in performing desired behaviors, which might have led participants to feel more confident in steps to perform activities [4, 27].

These also confirmed by the study conducted by Mularcik [28] who concluded that self-efficacy is a component of implementing lifestyle changes that can promote an improvement in chronic disease, including hypertension. Moreover, Park et al [29] found that the patient-tailored self-management intervention for nursing home residents with hypertension that integrated health education and individual counseling was beneficial for decreasing blood pressure at a clinically significant level, improving self-care behaviors, exercise self-efficacy and medication adherence.

Effective management of hypertension depends on patients' understanding of their condition, treatment regimen, and adherence to lifestyle and /or pharmacological treatment. Increasing patients' knowledge about the disease can achieve the goal of treatment, empower patients to make decision about their treatment, and can empower their motivation and intention to adhere with the treatment regimen [30, 31].

This is in accordance with the findings of the present study which proven a significant strong correlation between acquiring knowledge and adopting a healthy lifestyle, indicating that individuals have better knowledge

are more likely to have higher cognitive function so that they may understand the necessity of lifestyle changes and more motivated to adopt healthy lifestyle and adhering with the treatment regimen.

The same findings were reported in another study conducted in Egypt by Soliman, Saleem et al [32, 33] revealed that educating the patients about the disease and clarifying doubts regarding treatment directly connected with better control of hypertension. In contrast, other studies conducted by Ahmed , Hassan , Guirado et al [34, 9& 35]revealed no relation between knowledge about hypertension and self-efficacy to control blood pressure. This is may be justified by knowledge was not enough to achieve self-efficacy and changing in lifestyle because knowledge is not the only component to achieve the goal, but also positive attitude and behaviors.

The study conducted by Ambawet al [36]concluded that knowledge about hypertension and its treatment was found to be positively associated with adherence behavior. Patients with better awareness were more likely to adhere to their treatment. As well to Khosravizade et al [14]who concluded that helping patients to be aware of their diseases is controllable can lead to better self-confidence about living with a chronic disease. And also study has shown that adopting self-efficacy and self-care behaviors in hypertensive patients has strong relationship with their self-efficacy.

In addition to Unsal [37]who found that the self-efficacy education program could increase self-efficacy perception in individuals with chronic disease. Shropshire [39],Osborn et al [40] found that positive correlation between knowledge to self-efficacy. Others Studies have shown that people with high self-efficacy are more likely to engage in positive lifestyle changes that can improve or control chronic disease [28].

CONCLUSION:

It was concluded from the present study that the main findings showed that most of studied hypertensive patients have low level of knowledge and self-efficacy toward their disease pre implementation of the educational program. The success of implementation of the educational program in controlling BP whereas patients' knowledge was improved post program with highly statistical significant difference.

In addition the educational program had a significant importance inself-efficacy toward therapeutic regimen post program with highly statistically significant difference. As well; the findings showed that a highly statistically relation between patients' knowledge, and their self-efficacy, toward therapeutic regimen.

RECOMMENDATIONS:

-The study suggests that standard guidelines can serve as practical work tools for nurses working in out-patient services.

-Further researches are needed to clarify the impact of educational program and lifestyle guidelines on clinical practices and patient outcomes

Table 1: Socio-demographic Characteristics of Patients with Essential Hypertension (n=120):

Item	No	%
Age groups (in years):		
30 -	17	14.2
40 -	47	39.1
50-60	56	**46.7**
Mean **±** SD = **48.50 ± 7.89**		
Gender:		
Male	55	45.8
Female	65	**54.2**
Marital status:		
Single	6	5.0
Married	90	**75.0**
Divorced	7	5.8
Widower	17	14.2
Residence		
Urban	38	31.7
Rural	82	**68.3**
Monthly income for treatment regimen:		
Enough	55	45.8
Not enough	65	**54.2**

Table 2: Medical Health History of Patients with Essential Hypertension (n=120):

Item	No	%
Family history of hypertension		
Positive	91	**75.8**
Negative	29	24.2
Degree of relativity		
1st degree	71	**78.1**
2nd degree	20	21.9
Duration of hypertension:		
1-	53	**44.2**
5 -	47	39.1
≥10	20	16.7
Mean **±** SD = **5.82 ± 3.56**		
Way of discovering hypertension:		
Symptoms	81	**67.5**
Medical check up	22	18.3
Incidentally	17	14.2
Medications taken:		
One type	97	**80.8**
Two type**s**	23	19.2
Treatment regimen:		
Non pharmacological treatment	25	20.8
Pharmacological treatment	19	15.8
Both (non-pharmacological treatment & pharmacological treatment)	75.6	**63.4**

Table 3: Comparison of Mean Blood Pressure and Body Mass Index [BMI] of Patients with Essential Hypertension Pre/Post Program (n=120):

Variable	Preprogram		Post program		T	P- value
	Mean	±SD	Mean	±SD		
Systolic BP	152.10	8.86	145.47	6.25	10.124	0.000**
Diastolic BP	94.60	5.84	89.57	5.29	10.380	0.000**
BMI	30.42	4.05	29.57	3.30	8.567	0.000**

*Significant ≤ 0.05 ** Highly Significant ≤ 0.001

Table 4: Patients' Knowledge about Hypertension Pre/Post Program (n=120):

Patient's Knowledge	Pre program		Post program		Test of significance	
	Satisfied		Satisfied		Z-value	p-value
	no.	%	no.	%		
Definition.						
Medical Treatment.	30	25.0	95	79.2	-8.062	0.000
Drug compliance.	26	21.7	91	75.8	-8.062	0.000
Life style.	17	14.2	89	74.2	-8.485	0.000
Diet.	21	17.5	96	80.0	-8.660	0.001
Complications.	44	36.7	108	90.0	-8.000	0.000
	62	51.7	113	94.2	-7.005	0.000
Total:	22	18.3	96	80.0	-8.602	0.000
Patient's Knowledge about:						
Signs and symptoms of HTN.	70	58.3	117	97.5	-6.856	0.000
Causes of HTN	44	36.7	114	95.0	-8.250	0.001
Risk factors of HTN	21	17.5	86	71.7	-8.062	0.000
Preventive measures of HTN	48	40.0	116	96.7	-8.246	0.000
Total:	24	20.0	99	82.5	-8.660	0.000
Total knowledge score	19	**15.8**	96	**80.0**	-8.775	**0.000**

Highly Significant ≤ 0.001.

Table 5: Patients' Self-Efficacy to Hypertensive Regimen Pre / Post Program (n=120):

Patients' Self-Efficacy	Pre program		Post program		Test of significance	
	High	Low	High	Low	Z-value	P- value
	%	%	%	%		
Through HSES:						
Diet Regimen.	15.8	84.2	50.8	49.2	-6.481	0.000
Exercise Regularly.	51.7	48.3	65	35	-4.000	0.000
Get Information About Disease.	15.8	84.2	19.2	80.8	-1.414	0.157
Obtain Help from Community, Family, and Friends.	55.0	45.0	68.3	31.7	-4.000	0.000
Communicate With Physician.	32.5	67.5	69.2	30.8	-6.333	0.000
Manage Disease in General.	14.2	85.8	34.2	65.8	-4.707	0.000
Social/Recreational Activities.	59.2	40.8	83.3	16.7	-4.596	0.000
Manage Symptoms.	30.8	69.2	42.5	57.5	-3.300	0.001
Manage Shortness of Breath.	20.0	80.0	62.5	37.5	-7.141	0.000
Control/Manage Depression.	32.5	67.5	76.7	23.3	-7.280	0.000
Total:	6.7	93.3	65.0	35.0	-8.367	0.000
Through MASES:						
Confidence in taking medications	20.0	80.0	60.8	39.2	-7.000	0.000
Confidence in ability to carry out the following tasks	21.7	78.3	68.3	31.7	-7.483	0.000
Total:	20.0	80.0	63.3	36.7	-7.211	0.000
Total self-efficacy score	**9.2**	90.8	**67.5**	32.5	-8.367	**0.000**

Significant ≤ 0.05 Highly Significant ≤ 0.001

Table 6: Relations between Total Knowledge Scoresand their Total Self-Efficacy Scores Pre /Post Program (n=120):

Patients' knowledge Items	Pre - program				Test of significance		Post program				Test of significance	
	Satisfied		Unsatisfied		X^2	P-value	Satisfied		Unsatisfied		X^2	P-value
	No	%	No	%			No	%	No	%		
Total Self-Efficacy:	6	54.5	5	45.5	13.618	0.000	75	92.6	6	7.4	24.701	0.000
Higher	13	11.9	96	88.1			21	53.8	18	46.2		
Lower												

Significant ≤ 0.05 Highly Significant ≤ 0.001

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