

CONTINUING EDUCATION AND SKILL IMPROVEMENT: HOW INVOLVED ARE THE HEALTH PROFESSIONALS IN PRIMARY HEALTH CARE IN SOUTHWESTERN NIGERIA

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ABSTRACT

Background Information: The appearance of new diseases, changing lifestyles and dietary habits, urbanization and new treatment regimens as well as innovative technology have all made it very necessary for constant training and re-training of healthcare professionals, to keep abreast with the new developments, update and upgrade knowledge through continuing education and skill improvement especially in the Primary Health Centre (PHC) settings being the first point of contact of individuals with health services. There is a paucity of study on knowledge, attitude and practice of Continuous Education (CE) and Skill Improvement (SI) among healthcare workers. This study aimed to assess the knowledge, attitude and practice of continuing education and skill improvement among healthcare professionals and to identify the determinants of continuing education and skill improvement among the respondents in PHC facilities in Osun State.

Methodology: This study was a descriptive cross sectional study with 373 Healthcare professionals recruited from Primary Health Centres in selected Local Governments in Osun State, using a simple random sampling technique. Data were collected using the self-administered questionnaires and analysed using SPSS 17. Results are presented using tables and charts. P value was set at 0.05.

Results: The mean age of the respondents was 37 ± 0.05 years. CHEWs were the highest respondents (49.9%) and doctors being the least (1.1%). Most of the respondents acquired their source of continuing education and skill improvement information from colleagues and friends. Respondents had good knowledge on CE and SI (90.6%), a positive attitude (93.0%) which has a positive influence on the practice (73.5%) with more than 60% of respondents having attended courses on CE and SI in the past one year. However, this study revealed that lack of sponsorship and failure to secure a release to attend a CE program and low level of awareness were the major factors hindering participation in CE and SI among primary health care professionals.

Conclusions and Recommendations: The good knowledge, positive attitude and good practice of CE and SI among respondents are commendable; but though the practice is not optimal. It is recommended that the practice of CE and SI should be encouraged among the study group. Governments and the management of healthcare organizations should provide funds for sponsorship to motivate healthcare professional to attend continuing education and skill improvement for the improvement of knowledge of primary healthcare professional and the overall benefit of patients.

KEYWORDS: Continuing Education, Health Professionals, Skill Improvement

INTRODUCTION

The appearance of new diseases, changing lifestyles and dietary habits, urbanization and new treatment regimens as well as innovative technology have all made it very necessary for constant training and re-training in the health care industry, to keep abreast with the new developments, update and upgrade knowledge through continuing education and skill improvement.¹ Primary health centres (PHC) are the basic structural and functional unit of provision of public health services in developing countries, established to provide accessible, affordable and available health care to the people in accordance with the Alma Ata declaration of 1978 expected to serve as the first point of contact to healthcare services.^{2,3} PHC contribute to the health sector with the provision of integrated, comprehensive accessible health care services by clinicians, who are accountable for addressing a large majority of personal health care needs at the grass root level, developing a sustained partnership with patients, coordinating referral and linkages, when care must be sought elsewhere.^{4,5} Therefore, for a quality healthcare services to be rendered at the PHC level health professional must maintain and improve their knowledge, so as to constantly keep themselves abreast of new line of management and strategies in medical care. The CE program help healthcare professionals to acquire knowledge of new evidence-based practices in the management and care of patients.^{6,7} In the USA and other developed countries, healthcare workers require continuous education(CE) to maintain their licences being coordinated by certified bodies.⁸ However, the situation is different in developing countries like Nigeria where CE activities are less effective and no practical enforcement to compel individual's participation with many associated barriers like lack of motivation, time, finance and lack of access to CE facilities occasioned by lack of requisite information, communication technology (ICT) and technical know-how.⁹ Healthcare professionals in developing countries continue to lack access to basic, practical information to enable them to deliver safe, effective care with a gross lack of knowledge about the basics on how to diagnose and manage common diseases and often associated with suboptimal, ineffective and dangerous health care practices.^{10,11} The "information poverty" of healthcare professionals in Africa is exacerbating the way we manage and respond to public health emergency thus accounting for the high rate of mortality and morbidity seeing in African counties.^{10,12}

In Nigeria, study have shown that healthcare workers have poor attitude towards CE.¹³ When information and knowledge are available to healthcare professionals through CE, it provides confidence in clinical decision-making, improves practical skills and attitude to care and reduce rate of error in the management of patients, however when such information, knowledge and skills are not available for healthcare professional, such will become obsolete in the practice of medicine and diagnosis of diseases and their management will be crudely handled with minimally benefit to the patients. There are paucity of study on knowledge, attitude and practice of CE and SI among healthcare workers even when they are available most of such studies have been carried out among tertiary or secondary healthcare workers especially nurses and doctors with very few of such study carried out among healthcare workers in the primary healthcare settings providing services to majority of the Nigeria population.^{1,13} It is therefore important for workers at this level of health care, to be equipped with the appropriate knowledge and skills. Hence, this study aimed to assess the knowledge, attitude and practice of continuing education and skill improvement among healthcare professionals and to identify the determinants of continuing education and skill improvement among the respondents in PHC facilities in Osun state, the outcome of this study could serve as a material for policy regulation for all health care professional especially in the PHCs with a view to improve the quality of care at this level.

MATERIAL AND METHODS

Description of the Study Area

Osun State is an inland state in south western Nigeria, created from the old Oyo state on the 21st August, 1991.¹⁴ its capital is Osogbo. The state lies within the tropical rain region with thick deciduous vegetation in the southern part and grassland towards the north. It is located 7°30'N 4°30'E and covers an area of approximately 14,575 sq km with an approximate population of 3,416,959.¹⁵ It has two teaching hospitals, Ladoke Akintola University Teaching Hospital Osogbo owned by the State Government and that of the Federal Government, Obafemi Awolowo University Teaching Hospital at Ile-Ife and various State Hospital in major towns in the State. Osun State has 30 Local Government Areas (LGAs) with PHCs in each LGAs range from three to seven. There are approximately 30 medical doctors, 300 nurses, 1200 community health extension workers (CHEWS) and community health officer (CHO), 300 health assistants, 30 pharmacy technicians and 150 laboratory technicians working in various PHCs in Osun State.¹⁶

Study Population

The Study Population was the health care professionals in Primary Health Centres in Osun State. They include the physicians, community health officers, public health nurses and midwives, community health extension workers, junior community health extension workers, health assistants, laboratory technicians and pharmacy technicians and record offices. Healthcare professionals with at least 5 years experience working in PHC and Comprehensive Health Centre categories were used for this study, but workers, those working in health post/clinics and dispensaries were excluded.

Study Design

The study was a descriptive cross sectional survey.

Sample Size Determination

The sample size was determined using Leslie Fishers formula for a study population less than 10,000. Using the proportion P of respondents that attended CME from a previous study as 52%.¹⁷ The calculated minimum sample size was 354. However, a total of 400 questionnaires was administered.

Sampling Technique

Stratified sampling technique was used in this study. For each of the 3-senatorial district, two LGAs were randomly selected by balloting to make 6 LGAs. The LGAs were Ede north LGA, Ede south LGA, Osogbo LGA, Olorunda LGA, Ilesa west LGA and Ife central LGA. The questionnaires were equally distributed to the selected LGA and were administered to all PHCs under each LGA till all were exhausted. In each health care facility, pretested semi-structured questionnaires were administered by all health professionals that met the inclusion criteria.

Data Analysis

Three hundred and seventy-three (373) questionnaires were analysed out of the 400 questionnaires collected, given a response rate of 93%. Statistical package for social sciences (SPSS) version 17 was used to analyse the questionnaire. Knowledge and Practice were scored based on their responses; with 1 allocated for every correct answer and 0 for a wrong answer. The attitude was scored based on the responses to the questions asked to strongly agree – 5, Agree – 4, Indifferent – 3, Disagree – 2, Strongly Disagree – 1. The mean score for all the responses were computed and

respondents that score below the mean score were taken as having poor knowledge/practice or negative attitude, while those with the mean score and above the mean score were taken as having a good knowledge/practice or positive attitude. Variables were presented in frequency tables, graphs and charts. Chi-square statistics was used to estimate bivariate variables to know the determinant factors in the study. P values less than 0.05 were considered significant.

Ethical Consideration

Verbal consent was obtained from respondents after explaining the details of the study to them and participation was voluntary. Confidentiality was ensured as only numbers were used to identify questionnaires, respondents were not required to write their names.

RESULTS

A total of 373 questionnaires was completed and used in analysis out of the 400 questionnaires giving a response rate of 93.3%. Table 1 shows the socio-demographic characteristics of the respondents. The majority of the respondents, 72.1% were in the age group of 31 to 45 years, 79.6% were females, 88.7% were married, 57% were Christians and 98% of them were Yoruba's. Fifty percent of the respondents were S. CHEWs/CHEWs. Majority 82.6% had a tertiary level of education and 59.8% of respondents had spent ≤ 10 years in service.

Table 2 shows the respondent's knowledge about CE and SI. The majority of the respondents, 95.2% had heard of continuing education, 83.4% said, continuing education is acquiring new/current knowledge and 90.9% believed the benefit of continuing education is to add more knowledge with 5.1% having an erroneous belief that it is a basis for retrenching workers. Majority 82.6% said, continuing education is very important in patient management while 2.1% respondents said, it is not very important in patient management. Majority of 84.2% chose seminar/workshop/conference as a means of acquiring continuing education and skill improvement.

Table 3 and 4 show respondent's practice of CE and SI. About 75.6% of respondents had attended a program on CE and SI at least once, with 82% of them attends seminars/workshops. 35.1% of respondents only attended CE and SI programs once a year and only 1.1% practiced it, only when the program is rendered free or when fully sponsored. 85.8% said they felt very happy after attending such programs on CE and SI and 96.5% said the training had been of benefit to them. 42.2% of respondents last attended such programs 6months to a year ago and 13.1% last attended more than 2 years ago. 18.8% attend CE and SI program within their local government while 6% do attend such programs outside the country. The last program attended by 42.6% of respondents was organised by Local government civil service commission.

About 79.8% had once been sponsored to attend a course before and 47.2% had sponsored themselves to attend a course before 66.9%, of which was a diploma. Of the total respondents, 98.7% said they would like to attend continuing education programs if fully sponsored, 85.8% would attend if partially sponsored and 71.3% would on self-sponsorship. Out of 91 respondents who had not attended a course on CE and SI, 85.7% said it was due to no means of finance while 63.7% were not released in their health centre. About 74.3% and 22.3% said, lack of sponsorship and low level of awareness were factors hindering CE and SI in their PHCs, respectively. 83.9% and 62.2% of respondents said adequate sponsorship and employment of more staff respectively are ways of encouraging CE and SI among health care workers.

Table 5 shows the relationship between knowledge, attitude and practice of respondents on CE and SI. 93.5% of respondent with good knowledge had a positive attitude, while only 11.4% of respondents with poor knowledge had poor practice. 73.9% of those that had good knowledge had a good practice, while only 28.6% of those that had poor knowledge had poor practice. 73.8% of those that had positive attitude had a good practice, while only 30.8% of those that had negative attitude had band practice.

DISCUSSIONS

The age range of our respondents was between 15-61 years with the majority being between the age 31-45 years and mean age of 37 ± 0.05 years. The majority of the respondents was mostly married and educated up to the tertiary level of education with a significant proportion of the respondents in this study being CHEWs while doctors were the least among the respondents. This finding is similar to the study conducted in Lagos and Nigeria, in which doctors and pharmacist constitute the least of their respondents. In terms of knowledge of CE, the majority of our respondents had good knowledge while only a few had poor knowledge of continuous education and skill improvement, this is similar to the findings by the Chartered society of physiotherapy in the United Kingdom.¹⁸ Most of the respondents have a positive attitude towards continuing education and skill improvement and most had gone from one form of continuing education and skill improvement or the other. Based on the understanding of continuing education as a method of acquiring new/current knowledge among most of the respondents, this made them to believe that continuing education is very important in patient's care which was the main reasons why most of the respondent says all health workers (irrespective of their status) needs continuing education this is similar to the findings of another study.⁸ In this study, most of respondents got to know about continuing education and skill improvement through colleagues and friends, which is similar to the findings in a study among nurses, where most of respondents were encouraged by their peers.¹³ In this study, majority of the respondents believe that the benefit of continuing education is to gain more knowledge and to improve professionals skill over improving patient's management, this is not in tandem with another study done among nurses where most of participants undertake continuing education in order to develop proficiency necessary to meet patient's need.¹³ In terms of attitude to CE, this study shows that most of the respondents had positive attitude towards CE and SI, this is corroborated by another study which shows that healthcare professional has good attitude towards continuous medical education with majority of the respondents said they are interested in attending CE and SI if they will be fully sponsored.¹⁹ Regarding the practice of CE, more than three-quarter of the respondents had previously attended program on CE and SI at least once, this is corroborated by another study conducted in Lagos, which shows that almost two-third had attended CE in the past.¹ The last CE attended by majority of respondents was free and fully sponsored by Local, this findings corroborate the fact that when CE is free there is more attendance from the health care workers. Also, this study shows that two-third of the respondents attended a continue education program outside their local Primary Health Centre, this finding is different from another study conducted in Oman where almost two-third of the respondents said most of the learning programs are conducted within the local health centres.²⁰ Almost all the respondents said, they would like to attend continuing education programs if fully sponsored while a little above two-third of the respondents will still attend a CE program even if they have to sponsor themselves. However, this study revealed that lack of sponsorship and failure to secure a release to attend and low level of awareness were the major factors hindering participation in CE and SI among primary health care professionals. These findings in this study corroborated with advocacy by WHO and NPHCDA indicating the need for financial support to encourage health care professionals to keep abreast of current knowledge and skills.^{21,22} Other factors include shortage of staff, preference for senior staff and the fact that, attendance of CE and SI has or no influence on

promotion.^{8,17} This study shows that good knowledge had positive effect on attitude, as shown by the fact that those that had good knowledge had good practice. Level of education was also found to have positive influence on knowledge, attitude and practice, which increases, as the level of education increases, so also years in service had a positive influence on the practice, as the years of service increases in this study, so also the level of practice of CE and SI increases.

CONCLUSIONS AND RECOMMENDATIONS

Though most of the primary health professionals have good knowledge, positive attitude and good practice (but practice not as equivalent to knowledge and attitude), with doctors having the highest practice of continuing education and skill improvement, followed by nurses/midwives and CHEWs. Primary health professionals still express the need for motivations/sponsorship to attend continuing education and skill improvement program. The familiarity with current health information provides confidence in clinical decision-making, improves practical skills and attitudes to care. Governments and the management of healthcare organizations should provide funds for sponsorship to motivate healthcare professional to attend continuing education and skill improvement for the improvement of knowledge of a primary health care professional. Also, regulatory bodies should mandate continuing education and skill improvement programs as a prerequisite for yearly licensing as changes are inevitable in today's healthcare profession

DISCLOSURES

The authors declare no conflict of interest. This study was solely funded by the authors.

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APPENDICES

Table 1: Socio-Demographic and Socio-Economic Characteristics of Respondents (N=373)

Variable	Frequency (N=373)	Percentage (%)
Age		
15-30	71	19.0
31-45	269	72.1
46-60	32	8.6
>60	1	0.3
Sex		
Male	76	20.4
Female	297	79.6
Marital Status		
Single	35	9.4
Married	331	88.7
Divorced	1	0.3
Widow	6	1.6
Religion		
Christian	216	57.9
Islam	153	41.0
Traditional	4	1.1
TRIBE		
Yoruba	366	98.1
Igbo	5	1.3
Hausa	2	0.5
Cadre		
Doctor	4	1.1
Nurse	57	15.3
Pharmacy Technician	7	1.9
Chew	186	49.9
Laboratory Technician	18	4.8
H/A	60	16.1
Record Officer	41	11.0
Highest Level of Education		
Primary	4	1.1
Secondary	27	7.2
Tertiary	308	82.6
Postgraduate	14	3.8
Diploma	20	5.4
Years in Service		
≤10	223	59.8
11-20	133	35.7
21-30	15	4.0
>30	2	0.5

Table 2: Respondents Knowledge on Continuing Education and Skill Development

Variables	Frequency	Percentage (%)
Ever Heard of Continuing Education/Learning (N=373)		
Yes	355	95.2
No	18	4.8
Source (N=355 with Multiple Responses)		
Television	232	62.2
Radio	146	39.1
Print	62	16.6
Colleague	168	45.0
Friends	94	25.2
Ever Heard of Si (N=373)		
Yes	354	94.9
No	19	5.1
Source (N=354 with Multiple Responses)		
Television	223	59.8
Radio	154	41.3
Print	69	18.5
Colleague	181	48.5
Friends	75	20.1
Your Understanding of CE (N=373 with Multiple Response)		
Going abroad for training	74	19.8
Keep reminding/Refreshing oneself of what you learnt before	195	52.3
Acquiring new / Current knowledge	311	83.4
Gaining Knowledge / Practices from Other Places	197	52.8
Purpose / Benefit of CE (N=373 with Multiple Response)		
To add more knowledge	339	90.9
To improve one's skill	274	73.5
For promotion	193	51.7
For improving patient's management	209	56.0
To gain confidence and build morale	148	39.7
Basis to retrench workers	19	5.1
Importance of CE in Patient's Care (N=373)		
Not important	12	3.2
Not very important	8	2.1
Important	45	12.1
Very important	308	82.6
Methods of CE and SI That You Know? (N=373 with Multiple Response)		
Seminar/Workshop/Conference	314	84.2
Update Course/ Advanced course	177	47.5
Post-Basic/ Postgraduate course	94	25.2
Informal training like coaching or training	52	13.9
None	6	1.6
Cadres of Staff That Need CE (N=373 with Multiple Response)		
Doctors	263	70.5
Nurses/Midwives	285	76.4
Chews/Ha	327	87.7
Pharmacy Technician	261	70.0
Laboratory Technicians	262	70.2
Record Officers	245	65.7
Level/Status of Staff That Need CE (N=373)		
Senior Staff/Supervisors Like Matron/Doctors in Charge	37	9.9
Newly employed staff	30	8.0
Younger staff, but not newly employed	13	3.5
All health workers irrespective of status	280	75.1
Don't know/Not sure	13	3.5

Table 3: Respondent Practice of Continuing Education and Skill Improvement

Variables	Frequency (N)	Percentage (%)
Ever Attended Any CE and SI Program (N=373)		
Yes	282	75.6
No	91	24.4
Forms of Training Had (N=282 with Multiple Response)		
Post-Basic Course/Postgraduate Course	73	25.9
Special Course	62	22.0
Short Course Like Diploma/Certificate Course	87	30.9
Seminar/Workshop	233	82.6
Frequency of Attendance (N=282)		
Once a Year	99	35.1
More Than Once a Year	84	29.8
Only When The Management/My Boss Sends Me	63	22.3
Only When a Training is Taken Place in My Centre	33	11.7
When it is Free of Charge or I am Fully Sponsored	3	1.1
Fulfillment after the Program (N=282)		
Very Happy	242	85.8
Happy	35	12.4
Indifferent	3	1.1
Sad	2	0.7
Any Benefit in the Training (N=282)		
Yes	272	96.5
No	10	3.5
If Yes in What Way (N=272)		
It Add to My Knowledge and Skills	214	78.7
Because I Enjoyed the Training	15	5.5
It Improve My Practice and Management Practice	43	15.8
The Last Time You Attend a Course on CE and SI (N=282)		
<6 Months Ago	54	19.1
6 Months- 1year Ago	119	42.2
1-2 Years Ago	72	25.5
>2 Years	37	13.1
Location of Last Course (N=282)		
Within the Lg	53	18.8
Within the State	211	74.8
Within the Country	1	0.4
Outside the Country	17	6.0
Body/Agency that Organised the Last Programme(N=282)		
Hygea Foundation	18	6.4
Lg Civil Service Commission	120	42.6
State Government/Ministry of Health	15	5.3
Institute of Human Virology	9	3.2
National Association of Nurses and Midwives	6	2.1
Oma Consult	36	12.8
Saca	25	8.9
Unicef	22	7.8
Who	31	11.0

Table 4: Respondent Practice of Continuing Education and Skill Improvement

Variables	Frequency (N)	Percentage (%)
Ever Been Sponsored to Attend a Course Before (N=282)		
Yes	225	79.8
No	57	20.2
If Yes State the Course (N=225)		
Life Saving Skill	50	22.2
Tb Programme	20	8.9
Diploma Courses	6	2.7
Child Immunization and Survival Strategies	30	13.3
Family Planning	4	1.8
Flourescent Microscopy	6	2.7
Health Management in the Community/ Improving the Life of the Communers	61	27.1
Hiv and Human Virology Management	33	14.7
Malaria Global Program	11	4.9
Medical Records	4	1.8
Ever Sponsored Yourself to Attend a Short Course Before (N=282)		
Yes	133	47.2
No	149	52.8
If Yes State the Course (N=133)		
Diploma Course	89	66.9
Mandate Course for Nurses	15	11.3
Phc Integrated Service Delivery	11	8.3
Water Treatment	12	9.0
Bsc	6	4.5
Motivated to Finance Yourself on a Course (N=282)		
Yes	228	80.9
No	54	19.1
If Yes (N=228)		
To Acquire More Knowledge/Skill	154	54.6
Because I was Released to Attend the Seminar	31	11.0
For Additional Certificate and for Promotion	43	15.2
If No (N=54)		
Because am not Financially Capable	23	8.2
No Reason	21	7.4
No Time	10	3.5
Why Not Ever Attended any (N=91 with Multiple Response)		
Not Interested	7	7.6
No Means of Finance	78	85.7
Not Released In Health Centre	58	63.7
No Motivation from Others	29	31.9
Others		
Due to Personal Reason	3	3.3
Because am a Junior Staff	2	2.2
Not Organised by the Authority	1	1.1
Shortage of Staff	2	2.2
Interested in Attending a Programme if You Will be Fully Sponsored (N=373)		
Yes	368	98.7
No	5	1.3

Table 4: Contd.,

Variables	Frequency (N)	Percentage (%)
Interested in Attending a Programme if You Will be Partially Sponsored (N=373)		
Yes	320	85.8
No	53	14.2
Interested in Attending a Programme if Fully Self Sponsored (N=373)		
Yes	266	71.3
No	107	28.7
Factors Hindering CE and Si in Your PHC (N=373 with Multiple Response)		
Lack of Sponsorship	277	74.3
Shortage of Staff	254	68.1
Preference For Senior Staff	50	13.4
No Influence on Promotion	53	14.2
Low Level of Awareness	83	22.3

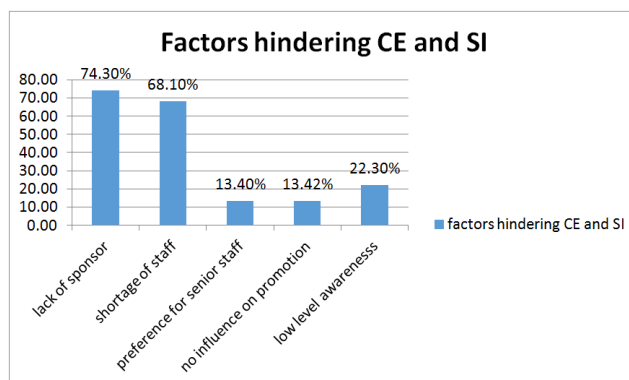


Figure 1: Shows Factors Hindering CE and SI in Your PHC

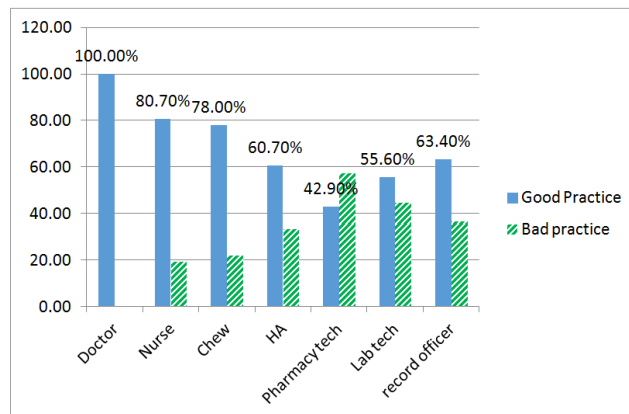


Figure 2: Relationship of Respondent Cadre to Their Practice of CE and SI

Table 5: Relationship between Knowledge, Attitude and Practice

Variable	Good Practice	Bad Practice	Df	χ^2	P Value
Good Knowledge	249 (73.9)	89 (26.3)			
Poor Knowledge	25 (71.4)	10 (28.6)	1	0.082	0.775
Positive Attitude	256 (73.8)	91 (26.2)			
Negative Attitude	18 (69.2)	8 (30.8)	1	0.256	0.613

* Significant, χ^2 = Pearson Chi-square, df= degree of freedom