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Research Article

Psychiatric Nurses' Level of Emotional Intelligence in a Developing Country: A Survey in Neuropsychiatric Hospitals in The Niger-Delta Region, Nigeria

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Abstract: In developing countries, successful mental health nursing practice amidst adverse working conditions, require coping strategies and skills including emotional intelligence. Therefore, psychiatric nurses' level of emotional intelligence is key for optimization of patient satisfaction. We aimed at assessing nurses' level of emotional intelligence, as well as associated factors, in the two Federal Neuropsychiatric Hospitals (FNPH) in the Niger-Delta region of Nigeria. Cross-sectional study design was utilized, and data was obtained from randomly selected nurses in each FNPH Benin and Calabar. Schulte's Emotional Intelligence Test was used to assess level of nurses emotional intelligence. SPSS version 21.0 was used to enter and analyze data, with p-value set at 0.05. One hundred and fifty (150) nurses were surveyed, with equal proportion in each study center, and a response rate of 98%. Mean age of nurses was 38.8 ± 8.4 years. Nurses mean EI score was 130.1 ± 11.8 (92 - 159). Moderate and high EI status was found in 20% and 80% of respondents, respectively. Compared with subjects with 20 or less years duration of practice, those with greater than 20 years, had significantly higher mean level of EI (p=0.00). Other sociodemographic and occupational characteristics did not significantly influence mean levels of EI (p>0.05). Also comparing nurses in Benin and Calabar, there was no significant difference in mean values for total emotional intelligence (3.94 vs. 3.93), self-awareness (4.02 vs. 4.05), self-regulation (4.00 vs. 4.08), self-motivation (4.29 vs. 4.15), empathy (3.61 vs. 3.62), and social skills (3.82 vs. 3.77) (p>0.05). Longer duration of practice was associated with higher level of EI (p=0.00). Psychiatric nurses in developing countries need earlier exposure, especially through establishment of more mental health institutions. There is also need for consistency in institutionally-driven capacity building, towards improvement in practice experience and EI of nurses
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Keywords: Emotional intelligence, psychiatric nurses, Niger-Delta, Nigeria.

INTRODUCTION

In developing countries, there is increasing short supply of nurses amidst increasing demand for high quality nursing care services (Dywili, Bonner, & O'Bien, 2013). This situation puts more strain on the available nurses, whose professional practice mostly involves and requires interpersonal relationship with patients, their relatives, colleagues, and other healthcare workers (Dywili, *et al.,* 2013). Much of this practice-oriented relationship is emotion-laden, with need for critical thought processing, attitude development, and behavior formation, during provision of nursing care (Khamisa, Oldenburg, Peltzer, & Ilic, 2015). Nurses' effective management of their emotion, and that of others, is therefore key to harnessing available scarce human resources in the health sector (Yoder-Wise, 2014).

This concept of appropriate recognition and use of knowledge of one's emotions and that of others refers to emotional intelligence (Goleman, 2013). The application of Emotional Intelligence (EI) has been found to yield improved productivity in diverse organizational settings, without exception to nursing practice (Yoder-Wise, 2014). Several studies have reported significant direct relationship between level of emotional intelligence and improved use of coping strategies against work-related stress, improved attitude to work, and overall job satisfaction (Michelangelo, 2015; Zhu, Liu, Guo, Zhao, & Lou, 2015). Studies suggest that many undesirable outcomes of patient dissatisfaction may be related to psychiatric nurses' inability to recognize and manage emotional challenges in themselves and their patients (Shan et al 2016). Still, psychiatric nurses are believed to have learned about

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emotions and its influence during their training, and have applied same in their contact with patients.

In nursing practice, there is high risk of occupational burnout and fatigue, especially when work conditions are unfavourable (Dywili, *et al.,* 2013). Consequently, there is increased risk of medication errors, poor management of end-of-life care, diminishing job satisfaction, and impaired productivity. Many of these highly preventable undesirable outcomes, are associated with nurses' ability to recognize and manage emotional challenges (Nightingale, Spiby, Sheen, & Slade, 2018). Appropriate management of workplace emotional challenges improves perception and attitude towards nursing practice as a noble evidence-based profession (Michelangelo, 2015). In other words, the innovative application of the concept of EI tends to improve performance, especially through improvement in communication and management of clients, their relatives and coworkers (Khamisa, *et al.,* 2015).

Unfortunately, the concept and application of EI is virtually unknown to vast majority of nurses in most developing countries (Dywili, *et al.,* 2013). Emotional Intelligence is neither taught nor practiced in our healthcare settings, resulting in low EI, and poor attitude towards professional nursing practice (Almost *et al.,* 2016; Codier, Kofoed, & Peters, 2015; Codier & Odell, 2014). Not surprising therefore, there is paucity of literature on emotional intelligence and its application in Nigeria, with very few studies investigating the concept among nurses. Available scarce healthcare resources are therefore not fully harnessed, amidst an already weak healthcare system (Almost, *et al.,* 2016; Dywili, *et al.,* 2013). This study was aimed at assessing level of EI and associated factors among nurses in Calabar and Benin Federal Neuropsychiatric Hospitals, in the oil-rich Niger-Delta region of Nigeria.

METHODS
There are only two FNPH in South-South geopolitical region of Nigeria, which is the area of focus for the study. This comprises of FNPH Calabar and FNPH Benin. Therefore, these two institutions were selected as the study sites in this study. The Federal Neuropsychiatric Hospital Calabar (FNPHC) established since 1903 is the oldest neuropsychiatric hospital in Nigeria and the largest public psychiatric hospital in Cross River State. There are one hundred and two (102) nurses of different cadres, who are at least doubly qualified with some having University degrees in nursing sciences. The other study setting was in Benin, the capital city of Edo State, South- South Nigeria. The Federal Neuropsychiatric Hospital (FNPH) is located at Uselu which is at Igor Local Government Area. It is the largest public psychiatric hospital in the State. There are one hundred and six (106) nurses of different cadres, ranging from NO2 to ADNS.

The sample size was determined using Leslie Kish formula for cross sectional study (WHO, 1990; Araoye, 2004) based on result of a study in Ile-Ife, South West Nigeria, which reported 90.5% prevalence of level of emotional intelligence (Adeniyi & Omoteso, 2014). One hundred and fifty (150) nurses were recruited into the study for assessment of emotional intelligence. This will be allocated proportionally with approximate ratio of 1:1 Calabar (75 nurses) and Benin (75 nurses) study sites, respectively. Nurses in both centers were recruited through simple random sampling technique, and questionnaires were self-administered.

Study instrument consisted of section A which comprised of 10 questions for respondents' sociodemographic data, and section B, was a 33-item, 5-point Likert scale questionnaire with higher responses indicating higher EI score. This is a validated Schutte Emotional Intelligence Test (SEIT) questionnaire that is adapted from (Schutte *et al.,* 1998), with minimum and maximum scores of 33 and 165, respectively. Reverse scoring was done for items 5, 28, and 33. Items for self-awareness (8,9,17,19,22), self-regulation (1,6,7,12,14,16,20,21,27,31), self-motivation (2,3,10,23,28), empathy (4,26,30,32,33), and social skills (5,11,13,15,18,24,25,29), were indicated. For each respondent, total emotional intelligence scores and scores for each of the components were computed as summation of the indicated scale for each item. Mean values for EI and each of the components was determined by multiplying the computed score by maximum Likert scale (being 5), then dividing by maximum possible score for the component.

Data was analyzed using the SPSS version 21.0. Test of normality of continuous variables was done using Kolmogorov-Smirnov test. Responses to questions in the study instruments assessing nurses' EI were scored, with higher scores indicating higher degree of the respective measure. Nurses' emotional intelligence score was a sum of responses to the 33-items Schutte Emotional Intelligence Test (SEIT) instrument, with a minimum score of 33 and maximum of 165. The total score represented the subject's level of EI, while the EI status was computed as low, moderate, and high, for ≤ 77, 78 to 121, ≥ 122, respectively. Emotional intelligence status was presented using frequency tables. Scores were also obtained for each of the 5 components of EI in view of the corresponding items on the instrument. The means of the total EI and each of the component scores were computed and compared between study groups using independent t-test. Pearson correlation was used to assess relationship between these predictor and outcome variables. P-value was set at 0.05. Ethical clearance was obtained from the FNPH Calabar and FNPH Benin research ethics committees before commencement of the study. Consent was obtained from subjects before collecting data.

RESULT

**Table 1:** Comparison of sociodemographic & occupational characteristics of nurses (N=150)

Variable	Study groups			Chi-square statistic (p-value)
	Benin n (%)	Calabar n (%)	Total n (100%)	
Age groups (in years)				
<30	8 (10.7)	12 (16.0)	20 (13.3)	3.8
30-39	28 (37.3)	35 (46.7)	63 (42.0)	(0.28)
40-49	28 (37.3)	18 (24.0)	46 (30.7)	
≥50	11 (14.7)	10 (13.3)	21 (14.0)	
Total	75 (100)	75 (100)	150 (100)	
Gender				
Male	14 (18.7)	30 (40.0)	44 (29.3)	8.2
Female	61 (81.3)	45 (60.0)	106 (70.7)	(0.00)
Total	75 (100)	75 (100)	150 (100)	
Marital status				
Single	7 (9.3)	19 (25.3)	26 (17.3)	Fishers
Married	67 (89.3)	56 (74.7)	123 (82.0)	Exact
Widowed	1 (1.4)	0 (0.0)	1 (0.7)	(0.02)
Total	75 (100)	75 (100)	150 (100)	
Tribe				
Efik	2 (2.7)	30 (40.0)	32 (21.3)	Fishers
Ibibio	8 (10.7)	11 (14..7)	19 (12.7)	Exact
Edo	52 (69.3)	8 (10.7)	60 (40.0)	(0.00)
Yoruba	13 (17.3)	26 (34.7)	39 (26.0)	
Total	75 (100)	75 (100)	150 (100)	
Religion				
Christianity	69 (92.0)	73 (97.3)	142 (94.7)	Fishers
Islam	6 (8.0)	1 (1.3)	7 (4.7)	Exact
Others	0 (0.0)	1 (1.3)	1 (0.7)	(0.10)
Total	75 (100)	75 (100)	150 (100)	
Professional qualification				
RN & RPN only	46 (61.3)	44 (58.7)	90 (60.0)	Fishers
RN, RPN & BSc.	26 (34.7)	28 (37.3)	54 (36.0)	Exact
Others	3 (4.0)	3 (4.0)	6 (4.0)	(0.94)
Total	75 (100)	75 (100)	150 (100)	
Duration in practice (in years)				
≤10	36 (48.0)	42 (56.0)	78 (52.0)	Fishers
11--20	26 (34.7)	15 (20.0)	41 (27.3)	Exact
21-30	13 (17.3)	14 (18.7)	27 (18.0)	(0.60)
>30	0 (0.0)	4 (5.3)	4 (2.7)	
Total	75 (100)	75 (100)	150 (100)	

One hundred and fifty (150) nurses were surveyed, with response rate of 98% and equal proportion in Benin and Calabar study centers. Mean age of subjects was 38.8 ± 8.4 years, ranging from 20 to 59 years old. The commonest age group was 30 to 39 years old (63, 42.0%), with no significant difference in proportion comparing subjects in Benin and Calabar (p>0.05, table 1). Ratio of female to male was 1: 0.42. Most subjects (123, 82.0%) were married.

Table 2: Comparison of mean emotional intelligence of nurses in Benin and Calabar (N=150)

Variable	Study groups		
	Benin n=75	**Calabar** n=75	**Total** n=150
Mean Emotional intelligence			
Mean (SD)	3.94 (0.40)	3.93 (0.31)	3.94 (0.36)
t-statistic		0.1	
p-value		0.94	
Mean Self-awareness			
Mean (SD)	4.02 (0.49)	4.05 (0.53)	4.03 (0.51)
t-statistic	0.39		
p-value	0.70		
Mean Self-regulation			
Mean (SD)	4.00 (0.49)	4.08 (0.38)	4.04 (0.44)
t-statistic	1.11		
p-value	0.27		
Mean Self-motivation			
Mean (SD)	4.29 (0.50)	4.15 (0.40)	4.22 (0.46)
t-statistic	1.92		
p-value	0.06		
Mean Empathy			
Mean (SD)	3.61 (0.57)	3.62 (0.53)	3.61 (0.55)
t-statistic	0.09		
p-value	0.93		
Mean Social (communication) skills			
Mean (SD)	3.82 (0.62)	3.77 (0.44)	3.79 (0.54)
t-statistic	0.63		
p-value	0.53		
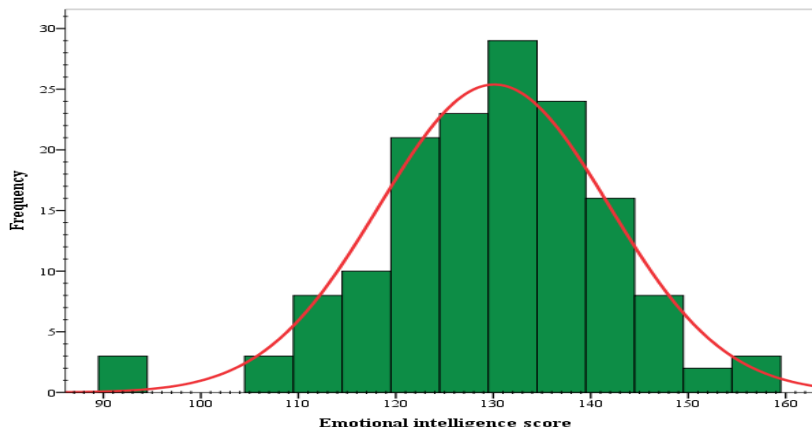
Figure 1: Histogram showing nurses emotional intelligence scores (N=150)

Emotional Intelligence (EI) score was normally distributed with mean score of 130.1 ± 11.8, ranging from 92 to 159 (figure 1). Mean EI was 3.94 ± 0.36. Mean scores for self-awareness, self-regulation, self-motivation, empathy, and social skills were 4.03, 4.04, 4.22, 3.61, and 3.79, respectively. Comparing Benin and Calabar subjects, there was no significant difference in mean values for total EI as well as the various components assessed (p>0.05, table 2).

Table 3: Factors associated with emotional intelligence among subjects (N=150)

Variable	Emotional Intelligence Mean ± SD	Self-Awareness Mean ± SD	Self-Regulation Mean ± SD	Self-Motivation Mean ± SD	Empathy Mean ± SD	Social Skills Mean ± SD
Age groups (in years)						
<40	3.91 ± 0.62	3.92 ± 0.19	4.07 ± 0.87	4.29 ± 0.73	3.66 ± 0.61	3.69 ± 0.59
≥40	4.10 ± 0.81	4.10 ± 0.28	4.01 ± 0.59	4.20 ± 0.64	3.58 ± 0.39	3.93 ± 0.81
t-test statistic	1.71	4.68	0.48	0.79	0.98	2.10
p-value	0.09	0.00	0.63	0.43	0.33	0.04
Gender						
Male	3.97 ± 0.41	4.09 ± 0.81	4.02 ± 0.58	4.26 ± 0.60	3.59 ± 0.27	3.76 ± 0.92
Female	3.91 ± 0.52	4.01 ± 0.53	4.08 ± 0.71	4.20 ± 0.48	3.64 ± 0.63	3.81 ± 0.77
t-test statistic	0.68	0.71	0.50	0.65	0.51	0.34
p-value	0.50	0.48	0.62	0.52	0.61	0.73
Professional Qualification						
< BSc Nursing	3.89 ± 0.35	4.02 ± 0.67	3.88 ± 0.71	4.19 ± 0.37	3.63 ± 0.88	3.66 ± 0.53
≥ BSc Nursing	3.98 ± 0.27	4.05 ± 0.44	4.19 ± 0.66	4.27 ± 0.28	3.58 ± 0.47	3.83 ± 0.29
t-test statistic	1.69	0.31	2.70	1.42	0.40	2.27
p-value	0.09	0.76	0.01	0.16	0.69	0.03
Duration of practice						
≤ 20 years	3.72 ± 0.57	3.86 ± 0.41	3.89 ± 0.41	4.20 ± 0.33	3.65 ± 0.19	3.50 ± 0.92
>20 years	4.12 ± 0.23	4.19 ± 0.77	4.14 ± 0.39	4.26 ± 0.46	3.57 ± 0.54	3.99 ± 0.47
t-test statistic	3.82	2.79	3.05	0.83	1.34	2.87
p-value	0.00	0.01	0.00	0.41	0.18	0.00

Compared with subjects with 20 or less years duration of practice, those with greater than 20 years, had significantly higher mean level of EI (p=0.00, table 3). Also, subjects that were 40 years or older, as well as those that had at least BSc. Nursing degree, had higher mean level of EI, though this differences were not statistically significant (p>0.05). There was no significant difference in mean level of EI comparing males and females (p>0.05).

Mean level of self-awareness was significantly higher among subjects that were 40 years or older, as well as those that had greater than 20 years duration of practice (p<0.05, table 3). Gender and professional qualification did not significantly influence level of

self-awareness (p>0.05). Mean level of self-regulation was significantly higher among subjects that had at least BSc. Nursing qualification, and those with greater than 20 years duration of practice (p<0.05). Age and gender did not significantly influence level of self-regulation (p>0.05). Mean level of social (communication) skills was significantly higher among subjects that were 40 years or older, had at least BSc. Nursing qualification, and had greater than 20 years duration of practice (p<0.05). Gender did not significantly influence level of social skills (p>0.05). Mean levels of self-motivation and empathy were not found to be significantly different, comparing each of the sociodemographic and occupational characteristics assessed (p>0.05).

Table 4: Comparison of emotional intelligence scores of nurses (N=150)

Variable	Study groups			Chi-square statistic (p-value)
	Benin n (%)	Calabar n (%)	Total n (100%)	
Emotional intelligence score				
≤100	3 (4.0)	0 (0.0)	3 (2.0)	Fisher's
101-110	2 (2.7)	3 (4.0)	5 (3.3)	Exact
111-120	11 (14.7)	7 (9.3)	18 (12.0)	(0.16)
121-130	19 (25.3)	30 (40.0)	49 (32.7)	
131-140	27 (30.0)	22 (29.3)	49 (32.7)	
141-150	9 (12.0)	12 (16.0)	21 (14.0)	
>150	4 (5.3)	1 (1.3)	5 (3.3)	
Total	75 (100)	75 (100)	150 (100)	
Emotional intelligence status				
Moderate (78-121)	16 (21.3)	14 (18.7)	30 (20.0)	0.17
High (122-165)	59 (78.7)	61 (81.3)	120 (80.0)	(0.68)
Total	75 (100)	75 (100)	150 (100)	

Self-awareness

≤15	4 (5.3)	2 (2.7)	6 (4.0)	Fisher's
16-20	39 (52.0)	36 (48.0)	75 (50.0)	Exact
>20	32 (42.7)	37 (49.3)	69 (46.0)	(0.56)
Total	75 (100)	75 (100)	150 (100)	

Self-regulation

≤25	1 (1.3)	0 (0.0)	1 (0.7)	Fisher's
26-35	9 (12.0)	4 (5.3)	13 (8.7)	Exact
>35	65 (86.7)	71 (94.7)	136 (90.7)	(0.20)
Total	75 (100)	75 (100)	150 (100)	

Self-motivate

≤15	2 (2.7)	0 (0.0)	2 (1.3)	Fisher's
16-20	22 (29.3)	34 (45.3)	56 (37.3)	Exact
>20	51 (68.0)	41 (54.7)	92 (61.3)	(0.06)
Total	75 (100)	75 (100)	150 (100)	

Empathy

≤15	16 (21.3)	14 (18.7)	30 (20.0)	0.76
16-20	45 (60.0)	50 (66.7)	95 (63.3)	(0.69)
>20	14 (18.7)	11 (14.7)	25 (16.7)	
Total	75 (100)	75 (100)	150 (100)	

Social skills

≤20	3 (4.0)	1 (1.3)	4 (2.7)	Fisher's
21-30	34 (45.3)	35 (46.7)	69 (46.0)	Exact
>30	38 (50.7)	39 (52.0)	77 (51.3)	(0.60)
Total	75 (100)	75 (100)	150 (100)	

There was no significant difference in EI score categories comparing Benin and Calabar subjects (p>0.05, table 4). Also, there was no significant difference in proportion of subjects within moderate or high EI status, comparing Benin and Calabar (p>0.05). Self-awareness, self-regulation, self-motivation, empathy, and social skills, were proportionally similar comparing Benin and Calabar subjects (p>0.05, table 4).

DISCUSSION

Using the 33-item Schutte Emotional Intelligence Scale (SEIS), satisfactory levels of EI among nurses was found, as evidenced by mean EI of 3.94 ± 0.36, and score of 130.1 ± 11.8% ranging from 92 to 159. In other words, with the least subjects having an EI score of 92, and considering the range for moderate (78-121) and high (122-165) levels of EI, all subjects in this study had at least moderate level of EI. Similar satisfactory level of EI was also found in a study among nurses in surgical clinic in Turkey, which found mean EI of 3.96 ± 0.45 and score of 128.52 ± 14.4(Oyur-Celik, 2017). Also, in a study among 120 nurses in Accra, Ghana, slightly lower mean EI score of 125.05 ± 14.02 EI was found (Tagoe & Quarshie, 2017). Similarity in levels of EI seen, may be due to possible similarity in sociodemographic and occupational characteristics, as well as experience and exposure of nurses in these settings.

In this study 80% of subjects had EI levels of 122 or greater, suggesting high level of EI among nurses in the study centers. This is commendable, but may be due to response bias with potential over reporting by nurses who may be aware of being assessed as a demonstration of Hawthorne effect. This position is considered due to significantly lower prevalence of 20.9% reported among nurse managers in a cross-sectional study in Egypt (El-Sayed, El-Zeiny, & Adeyemo, 2014). High level of EI may however be attributable to high level of educational qualification of nursing staff in Nigeria Federal Neuropsychiatry Hospitals, as well as personal and institutional effort at continuing education for annual license renewal.

Self-awareness is one of the most essential aspects of emotional intelligence. It aids identification and understanding of one's strengths and weaknesses, towards more effective decision making process. This study found satisfactory mean self-awareness of 4.03 ± 0.51. This is higher than mean of 3.45 ± 0.46 reported in a cross-sectional study of EI among nurses in Jos, North-Central Nigeria (Mshellia, Malachy, Sabo, & Abu-Abdissamad, 2016). It is however similar to mean of 3.96 ± 0.54 reported in a study among nurses in a surgical clinic in Turkey (Oyur-Celik, 2017). Nursing practice is often characterized by stressful work environment, which requires one's ability to regulate and positively redirect difficult emotional situations. In this study, mean self-regulation was found to be 4.04 ± 0.44, suggesting satisfactory ability to self-regulate one's emotions at workplace. Mshillia *et al.,* in their study among nurses in Jos found lower mean of 3.07 ± 0.46, while Oyur-Celik et al. in Turkey reported similar mean value of 3.98 ± 0.46. Many factors have been found to contribute to one's ability to self-regulate during challenging or stressful emotional situations, including prior long-term exposure to physical violence

(Basogul, Arabaci, Buyukbayram, Aktas, & Uzunoglu, 2019).

Unfavorable work conditions can significantly discourage effective nursing practice against career fulfillment. This situation may be worsened by presence of interpersonal conflicts with colleagues and other health workers. At such times of potential demotivation, self-motivation is a key requirement for forging ahead towards provision of best possible care. In this study, satisfactory mean self-motivation of 4.22 ± 0.46 was found. Similar study in Jos reported mean of 4.06 ± 0.71 (Mshellia, *et al.,* 2016), while study in Turkey reported mean of 3.92 ± 0.55 (Oyur-Celik, 2017). Empathy expressed by nurses has been shown to significantly improve patient outcome and their eventual satisfaction with care. In this study, relatively lower mean empathy of 3.61 ± 0.55 was found, suggesting suboptimal empathy among subjects during nursing practice. Similar relatively lower mean value of 3.41 ± 0.58 was reported in Jos (Mshellia, *et al.,* 2016), while a higher value of 3.96 ± 0.53 was reported in Turkey (Oyur-Celik, 2017). These findings may have significant implications for nursing practice, in view of consistent need for better understanding of other's emotions towards more effective communication of difficult medical conditions and situations. Social skills are required to effectively express empathy. It is a key aspect of EI, required for group organization, engagement and negotiation of solutions. In this study, mean social skill of 3.79 ± 0.54 was found. The study in Jos reported lower mean of 3.28 ± 0.50 (Mshellia, *et al.,* 2016), while the study in Turkey reported mean of 3.92 ± 0.55 (Oyur-Celik, 2017).

This study found longer duration of practice as significant determinant of levels of EI among subjects. As mental health nurses gain experience through practice, they are able to understand and relate better with their patients (Foster, Fethney at al., 2017). Especially for chronic cases, the patients in turn also get to better relate with their longstanding healthcare providers. This improvement in nurse-patient relationship as hallmark of EI, potentially leads to better compliance with treatment, better quality of life, and reduced morbidity due to mental illnesses (Adam & Iseler, 2014). Better relationship also improves level of satisfaction with care, which in turn yields better uptake of available mental healthcare services (Rick & Callahan, 2013). This study has therefore identified EI as one if the key benefits of years of mental health nursing practice experience.

Unlike duration of practice, other sociodemographic and occupational characteristics did not significantly influence level of EI. This non-significant effect of these factors on EI is worthy of note. For instance, older age of subjects, with potentially higher degree of exposure to diverse life events and people, did not confer higher level of EI.

This suggest that nurses' earlier onset of practice, rather than their age, is key. Consequently, earlier guidance, choice, and pursuit of mental health nursing career, may yield earlier onset of practice experience for better EI and outcome of care provided (Fujino, Tanaka, Yonemitsu, Kawamoto, 2015). Yet, in many resource-poor settings, there is paucity of mental health hospitals for gainful employment of trained mental health nurses (Teboh, 2019; Cooper, Bhana, Drew *et al.,* 2020). In the densely populated Niger-Delta region of the study setting for instance, there are only two Federal Neuropsychiatric centers, potentially causing burn out of their staff. Unfortunately, the menace of brain drain due to poor remuneration and unfavorable working conditions, further impairs retention of highly skilled longstanding nurses (Oladeji & Gureje, 2016).

Level of professional qualification did not significantly influence level of EI. This finding underscores the critical role of on-the-job experience, rather than certification, on ability to relate with patients and manage varying mental health situations (Fujino *et al.,* 2015). Also, gender did not significantly influence overall level of EI, as well as each of the components of EI. In other words, inherent gender-based differences in interpersonal and interpersonal relationship with individuals and reactions to life circumstances may not be sufficient to influence level of EI among mental health nurses in the study setting (Apore & Asamoah, 2019). This is not unexpected, since EI is an attribute that is acquired through learning exposures irrespective of gender (Foster *et al.,* 2017).

There are also significant associations with the other components of EI, that are worthy of note. For instance, level of self-awareness and social communication skills were significantly higher among older subjects, after controlling for potential confounders including duration of practice. This finding suggests potential role of off-the-job life exposures and experiences on these components of EI (Serrat, 2017; Ganesan & Sukanya, 2019). Unfortunately, this study did not assess for the degree and type of these non-occupational factors, to ascertain their potential moderating effects on EI. Also, self-motivation and empathy components of EI were no influenced by any of sociodemographic and occupational factors assessed. This finding suggest that these components of EI may be the most difficult to be influenced by intrinsic and extrinsic factors, including professional qualification and duration of practice. Other factors that were not assessed, may however have had significant influence on these components (Ganesan et. al., 2019). For instance, self-motivation may be influenced by staff's level of job satisfaction (Tagoe & Quarshie, 2017). Also, empathy may be influenced by subjects' perception of degree of hopelessness of mental illnesses, especially in view of potential limitations of effective mental health service delivery on the study setting (Teboh *et al.,* 2019; Cooper *et al.,* 2020).

Cumulative as well as each of the assessed components of EI were found to be similar in each study center, with no significant difference comparing nurses in Benin and Calabar. This finding may be due to similarity in educational qualification and years of practice among nurses in these settings. However, though level of self-motivation was not statistically different comparing the study groups, higher mean value in Benin may be clinically significant (p=0.06). Potential differences in workplace conditions, domestic and occupational stressors, may inhibit or drive self-motivation. In other words, nurses in Benin may be having higher degree of promoters or lesser degree of inhibitors of self-motivation, compared with their colleagues in Calabar. Workplace drivers of self-motivation that may be potentially different in the study settings, include interpersonal relationship with colleagues, consistency of adequate staff remuneration, and degree of fulfillment derived from successful provision of nursing care services. Potential difference in previous personal experiences of the subjects in diverse settings, as well as career goals and expectations may also contribute to resultant level of self-motivation.

CONCLUSION

This study found satisfactory levels of emotional intelligence (EI) among nurses. Yet, there is room and need for improvement. Therefore, EI of nurses should be assessed regularly in our health facilities. This may be done annually, to enable nurses recognize and better understand their emotional strengths and weaknesses, towards more effective personal and institutionally-driven development. Longer duration of practice was the most significant determinant of levels of EI. More opportunities for practice should be made available to young mental health trainees and nurses, to enable them acquire sufficient EI required for more effective service delivery in low-resource settings. This requires establishing more neuropsychiatric hospitals, within reach of the vast majority of underserved populations, who have increasing unmet mental health needs.

Also, EI is influenced by on-the-job experience rather than certification. Perhaps the initial diploma training in psychiatric and mental health nursing, coupled with years of practice experience, will be a cost-effective means of improving the requisite workforce in resource-poor settings, where higher learning may be quite unaffordable. This also suggests the need for revision of training curriculum, towards increasing duration of practicum experience especially for the Bachelor of Nursing Science and higher degrees. Further research into the subject area of nurses' emotional intelligence is strongly recommended in other similar and dissimilar settings. These studies should be conducted among wider and more heterogeneous sample population, including nurses at much lower cadre (such as auxiliary nurses in private clinics) that may potentially have lower levels of EI.

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