Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 8, Issue 1, pp: (376-389), Month: January - April 2021, Available at: www.noveltyjournals.com

Developing an Instrument for Measuring Bachelor's Degree Nursing Professionalism

Eman Ismail Elksas[1], Reem Mabrouk Abd El Rahman[2], Nadia Hassan Ali[3]

1 Assistant Lecturer of Nursing Administration, Faculty of Nursing, Damanhour University, Egypt.

2 Professor of Nursing Administration, Faculty of Nursing, Damanhour University, Egypt.

3 Lecturer of Nursing Administration, Faculty of Nursing, Alexandria University, Egypt.

Abstract: **Nursing professionalism has positive impact on patients, members of the profession, organizations, and the profession itself. Its effect includes: high quality of care, safety, and patients' satisfaction; improved nurses' performance, commitment, and satisfaction; and good reputation and public' confidence in nursing profession. Aim: to develop an instrument for measuring Bachelor's Degree Nursing Professionalism (BDNP). Methods: a methodological qualitative research design was utilized at all hospitals that are affiliated to the Ministry of Health and Population (MOHP), at El-Beheira Governorate-Egypt (n= 20). Subjects: it is composed of two groups: panel of experts (n=53), divided into two categories: academic experts (n=10) and professional experts (n=43); and professional nurses (n= 332). Tools: two tools were developed, tool one: BDNP Instrument and tool two: opinionnaire sheet. Results: the study findings revealed that there was highly significant positive correlation between the total final version of the developed instrument for measuring BDNP and its attributes at p-value ≤0.01. Conclusion: the developed instrument for measuring BDNP has acceptable face validity; excellent content validity and reliability; and construct validity. Recommendations: implementing the valid and reliable developed instrument for measuring BDNP in different health care settings; conducting programs for bachelor's degree nurses in different healthcare units to enhance their professionalism; and educating bachelor's degree students at Faculties of Nursing about the attributes of nursing professionalism.**

Keywords: **Instrument development, nursing professionalism, Bachelor's degree.**

I. INTRODUCTION

Recently, in response to rapid advances in science and the growth of new technologies in different fields, the profession of nursing is committed to increase nursing competencies and extend the knowledge boundaries to meet the elevated expectations related to cost-effectiveness, high-quality nursing services, and the societal demands placed on nurses [(1)]. Moreover, nurses form the largest group of health care providers whose professional capabilities have an important role in the realization of an effective health care system [(2)]. In this respect, the success and development of nursing profession depends on nurses' ability to demonstrate professionalism in their daily practices [(3)].

Healthcare practices are changing and advancing rapidly and demands highly qualified professional nurses, who had attended Bachelor's degree program, which, in turn, includes nursing, medical, social, and educational courses [(4)]. This program is the center of the Wheel of Professionalism in Nursing [(5)] because it produces professional nurses with high levels of knowledge, skills, critical thinking, and ability to address the professional problems through evidence based practice, and policy development and intervention [(6)]. In Egypt, the image of nursing as a profession was not improved significantly even after increasing the number of nurses, who are holding Bachelor Degree of Nursing Sciences because of nursing shortage and media [(7)]. According to the World Health Organization (WHO) (2015) [(8)] report, Egypt currently faces a chronic nursing shortage; there are 14.8 nurses and midwives to every 10.000 Egyptians, this ratio amounts to barely half of the global benchmark figure of 28.6 nurses. Therefore, there is an urgent need to measure and foster Bachelor's Degree Nursing Professionalism.

Nursing professionalism reflects the act of providing quality patient care while honoring the values of respect, responsibility, and advocacy. Also, it extends to nurse's ability to communicate clearly, self-reflect on behaviors and actions, and strive for both personal and professional development [9]. Moreover, it is the pursuit of conducting proper nursing tasks in response to patients needs by utilizing science, theories, and technology in the clinical settings [2]. It involves improving the methods, standards, and judgments that guide nursing practices [10]. Therefore, nursing professionalism has positive impact on patients, members of the profession, organizations, and the profession itself [11]; leading to high quality of care and safety; patients' satisfaction; improving nurses' performance; commitment and satisfaction; and good reputation and public' confidence in nursing profession [12-13].

Internationally, many researchers had developed attributes related to nursing professionalism. First, Hall [14] developed a nursing professional model, which represents five attitudinal attributes: using a professional organization as major referent; belief in public service; belief in self-regulation; a sense of autonomy in practice; and a sense of calling representing a commitment to the profession beyond economic incentives. Furthermore, Miller [5] developed the "Wheel of Professionalism in Nursing Model", where the hub of the wheel represents university education and scientific nursing background. This wheel reveals eight attributes that define nursing professionalism, as follows: professional organizations participation; community service orientation; competence and continuing education; development, use, and evaluation of research; publication and communication; development, use, and evaluation of theory; adherence to the American Nurses Association (ANA) Code of Ethics; and lastly, autonomy and self-regulation. Moreover, Registered Nurses Association of Ontario (RNAO) [15] illustrated the attributes of nursing professionalism including: knowledge; ethics and values; advocacy; autonomy; spirit of inquiry; innovation and visionary; collegiality and collaboration; and accountability.

Additionally, the Nurses Association of New Brunswick (NANB) [16] developed the "Standards of Practice for Registered Nurses", and it includes: responsibility and accountability; knowledge-based practice; client-centered practice; and professional relationships and leadership. Moreover, Nursing and Midwifery Council [17] specified the professional standards of practice and behavior for nurses, which comprises: prioritize people; practice effectively; preserve safety; and promote professionalism and trust. Despite attempts to describe professionalism by a variety of professional organizations, the need remains for further exploration of attributes that foster nursing professionalism through a valid and reliable instrument.

In this respect, the developed Bachelor's Degree Nursing Professionalism (BDNP) Instrument is of great need to enhance the nursing professionalism and to provide a clear tool to illustrate the vitality of its measurement. It is developed based on 13 attributes, namely: **(1) Professional organization participation**, which empowers professional nurses to stay up to date on current practices, read what leaders in the field are saying, and get a look at what other hospitals around the country are doing to innovate and advance patient care [18]; **(2) public (community) services orientation** is one concept adopted to ensure the effective provision of services based on the health needs of community [19]; **(3) autonomy and self-regulation** refers to performing activities within the scope of nursing practice without permission from others and having the ability to choose between the best and worst conditions [20]; **(4) Sense of calling** to the nursing field means that professional nurses view their work as a meaningful mission rather than a means to obtain resources [21]; **(5) Responsibility and accountability** confirms that professional nurses are: responsible to practice ethically, competently, safely, and compassionately; and accountable for their knowledge, skills, attitudes, and behaviors to patients, colleagues, organization, the profession, and the community [22].

(6) Competency based practice specifies that a nurse is able to complete responsibilities and is equipped with the knowledge and skills to practice the profession confidently and safely without the need for direct supervision [23]; **(7) Client centered practice** means ensuring that all clinical decisions and practices are guided by patient' values, preferences, and needs [24]; **(8) Professional relationships and leadership** illustrates that professional nurses need to be prepared to lead in all aspects of health care [25]; **(9) Professional standards of practice** are authoritative statements that describe the duties that all professional nurses are expected to perform competently [26]; **(10) Advocacy** is identified as: a philosophical principle in the profession of nursing and it is an embedded component of nursing practice [27]; **(11) Spirit of inquiry** is an ongoing curiosity about the best evidence to guide clinical decision making [28]; **(12) Collegiality and collaboration** is described as the ability of every healthcare professional to effectively espouse complementary roles within a team; share the responsibilities for problem solving; respect the unique talents, knowledge, experiences, and roles of healthcare team members; and work cooperatively to make the decisions needed to formulate and carry out plans for

patient care [29]; and finally, **(13) Innovation and visionary** means the encouragement of professionals to use their acquired knowledge and skills to creatively create and develop new ways of practice, depending on technologies, systems, and theories to further promote and evaluate practice [30].

Aim of the study

The aim of this study was to develop an instrument for measuring Bachelor's Degree Nursing Professionalism.

Research hypotheses

- The developed instrument for measuring Bachelor's Degree Nursing Professionalism is valid.
- The developed instrument for measuring Bachelor's Degree Nursing Professionalism is reliable.

II. MATERIALS AND METHODS

Research design

Methodological qualitative research design was utilized to conduct this study.

Setting

This study was carried out at all hospitals that are affiliated to the Ministry of Health and Population (MOHP), at El-Beheira Governorate-Egypt (n=20). It included: Edfina Central Hospital; Badr Central Hospital; Housh Eissa Central Hospital; Rashid General Hospital; Abu Al Matamir Central Hospital; Idku Central Hospital; Kom Hamada Central Hospital; Damanhour Chest Hospital; Kafr El-Dawar General Hospital; Kafr El-Dawar Central Hospital; Kafr El-Dawar Fever Hospital; Damanhour Ophthalmic Hospital; El Rahmaneya Central Hospital; El Delengat Central Hospital; Abu Hummus Central Hospital; El Mahmoudeya Central Hospital; Itai El Baroud General Hospital; Shubrakhit Central Hospital; Damanhour Fever Hospital; and El Noubareya Central Hospital. El-Beheira Governorate is one of the largest in Egypt, encompassing 6,461,152 habitants [31].

Subjects

The subjects of this study were composed of two groups, as follows:

Panel of experts

They were divided into:

a. Academic experts (n=10): they included academic staff members from the related field of the study.

b. Professional experts (n=43): they included directors of nursing services and their assistants (n=40), who are working at the previously mentioned settings; additionally, the director of nursing administration at El-Beheira Directorate of Health Affairs and her assistants (n=3).

Study subjects

A purposive sample of professional nurses (n=332), who are holding Bachelor degree of Nursing Sciences from the previously mentioned settings, were included in the study, at confidence level 95% by using Thompson equation [32]. Since the total population was 1610.

Tools of the study:

Two tools were developed in this study:

Tool (I): Bachelor's Degree Nursing Professionalism (BDNP) Instrument.

It was developed by the researchers based on a thorough review of related literature [1-30] to measure BDNP. It contains 13 domains (attributes) (69 items), namely: (1) professional organization participation (3-item); (2) public (community) services orientation (3-item); (3) autonomy and self-regulation (6-item); (4) sense of calling (4-item); (5) responsibility and accountability (7-item); (6) competency based practice (6-item); (7) client centered practice (5-item); (8) professional

relationships and leadership (4-item); (9) professional standards of practice (9-item); (10) advocacy (5-item); (11) spirit of inquiry (6-item); (12) collegiality and collaboration (7-item); and lastly, (13) promote innovation and visionary (4-item).

Tool (II): Opinionnaire Sheet.

It was developed by the researchers based on the following two forms:

a. Content validity that was tested through indicating panel of experts' opinions for each item of the developed instrument. Responses were measured on 4-point ordinal rating scale ranged from 1 (irrelevant) to 4 (extremely relevant).

b. Face validity, which was tested through eliciting the panel of experts' opinions regarding the general form of the developed instrument. Their responses were measured dichotomously, as: agree or disagree.

In addition, a demographic characteristics data sheet was developed by the researchers for the study subjects groups, and included questions related to: age, educational qualifications, gender, years of nursing experience, and years of academic/managerial/unit experience, and working units.

Methods:

1. An approval to carry out this study was obtained from the responsible authorities after explanation of the purpose of the study.

2. Development of the instrument: According to Slavec and Drnovsek [33], the process of instrument development included ten steps grouped into three phases that were executed as follows:

Phase I: Theoretical importance and existence of the construct.

(1) Content domain specification: to clearly define the main content domains (attributes) of Bachelor's Degree Nursing Professionalism (BDNP) Instrument, after a thorough review of related literature [5, 14-17]. **(2) Item pool generation**: through face to face interviews, with ten professional nurses, who are holding Bachelor degree of Nursing Sciences and working at ten hospitals, affiliated to El-Beheira MOHP. They were selected randomly based on their willingness to participate in the study, after explanation of its purpose. Afterwards, constant comparative analysis between these two steps was carried out. The resulting product of this step was **the first version** of the developed instrument for measuring BDNP, which included 94 items grounded in 13 attributes. **(3) Content and face validity evaluation**: conducted by panel of experts (academic and professional) through the opinionnaire sheet. This step took a period of six months from the beginning of September 2019 to the end of February 2020. Scale-Content Validity Index (S-CVI) and Item-Content Validity Index (I-CVI) values range from 0 to 1. If I-CVI was < 0.70, the item was omitted [34].

Phase II: Representativeness and appropriateness of data collection.

(4) Questionnaire development and evaluation: 16 items out of 94 items were omitted as they got I-CVI < 0.70. The result of this step yielded **the second version** of the developed instrument for measuring BDNP, which is composed of 78 items grounded in the pre-mentioned 13 attributes. **(5) Translation of instrument**: the second version of the developed instrument was translated into Arabic language for the easiest use of study subjects; and tested by five experts from the field of the study for the translation and feasibility. **(6) Pilot study**: was conducted on 10% of professional nurses (n=33), rather than the study subjects to test the applicability of the second version of the developed instrument and to determine the difficulties in using it. **(7) Data collection**: to test the reliability and construct validity of the second version of the developed instrument, from the study subjects at the previously mentioned settings (n=332). It took about 30 minutes to be filled. This step took a period of four months ranged from the beginning of May 2020 to the end of August 2020.

Phase III: Statistical analysis and statistical evidence of the construct.

(8) Reliability assessment: was measured by the internal consistency reliability of the developed instrument using Cronbach's Alpha Coefficient test; and the inter-rater reliability through Intraclass Correlation Coefficient test (ICC) at confidence interval 95%. **(9) Construct validity assessment**: to determine if the attributes and its items of the developed instrument were conceptually and statistically related through measuring two main types of construct validity: convergent and divergent (discriminant). Convergent validity was assessed using: a) Kaiser-Meyer-Olkin test (KMO), which indicates that the sample was adequate; and b) Bartlett's test of sphericity, which stated that the instrument was significant

at confidence interval 95%. Furthermore, divergent (discriminant) validity was measured using factor correlation matrix at confidence interval 99%, which indicates a highly significant correlation between the attributes of the developed instrument and the overall instrument. **(10) Instrument refinement**: based on the results of previous two steps, 9 items out of 78 items were omitted. This step resulted in **the final version** of the developed instrument for measuring BDNP, which is composed of 69 items grounded in the pre-mentioned 13 attributes, namely: (1) professional organization participation (3-item); (2) public (community) services orientation (3-item); (3) autonomy and self-regulation (6-item); (4) sense of calling (4-item); (5) responsibility and accountability (7-item); (6) competency based practice (6-item); (7) client centered practice (5-item); (8) professional relationships and leadership (4-item); (9) professional standards of practice (9-item); (10) advocacy (5-item); (11) spirit of inquiry (6-item); (12) collegiality and collaboration (7-item); and lastly, (13) promote innovation and visionary (4-item).

Ethical considerations

- An informed written consent was obtained from the study subjects after explanation of the aim of the study.
- The right to refuse to participate or withdraw from the study was assured during the study.
- Confidentiality and anonymity regarding data collected were maintained.

Statistical analysis

Data were statistically analyzed using Statistical Package of Social Science (SPSS) version 22.0. The following statistics were applied: **(1) Descriptive statistics:** in the form of frequencies, percentages, mean and standard deviation. **(2) Reliability of developed instrument:** was calculated through Cronbach's Alpha Coefficient test and Intra-class Correlation Coefficient. **(3) Validity of developed instrument:** was assessed through Kaiser-Meyer-Olkin test (KMO), Bartlett's test of sphericity**,** and factor correlation matrix.

III. RESULTS

Table (1) reveals that the majority of the panel of experts (81.1%) were professional. Moreover, the mean age of panel of experts and study subjects were 42.90±6.8 and 32.58±6.8, respectively. Also, this table illustrates that the panel of experts, who were holding both Bachelor degree of Nursing Sciences and Master degree of Nursing Sciences, had the same percentage (37.7%); compared to 88.9% of study subjects, who were holding Bachelor degree of Nursing Sciences. Pertaining to gender, all panel of experts and the majority of study subjects (84.0%) were female. In relation to years of both nursing, and academic/ managerial/unit experiences, the panel of experts and study subjects means were 21.23±4.7, 8.41±3.6, 16.85±5.7, and 7.89±2.9, consecutively.

Table (2) shows that all panel of experts both academic and professional agreed upon the face validity of the developed instrument, e.g: adequacy of questions of demographic characteristics data; relevance of the instrument title to the intended work; representativeness of instrument attributes and its items; clearance and comprehensiveness of items statements; and relevance of 5 Likert scale with the criteria of the developed instrument.

Table (3) indicates that all instrument attributes and 78 items out of 94 items, had validity results > 0.85.

Table (4) reveals that nine items were omitted from the second version of the developed instrument for measuring BDNP to enhance its internal consistency.

Table (5) mentions that the final version of the developed BDNP instrument had excellent internal consistency (.965); and excellent intraclass correlation at confidence interval 95% (.925).

Table (6) proves that there was statistically significant interrelationship between each attribute' items at level of significance 95 % (P= .000).

Table (7) illustrates that there was a highly significant positive correlation between the final version of the developed BDNP instrument and its attributes and between all attributes at P-value ≤0.01.

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 8, Issue 1, pp: (376-389), Month: January - April 2021, Available at: www.noveltyjournals.com

Table (1): Distribution of study groups according to their demographic characteristics.

Demographic characteristics	Panel of experts (n= 53)		Study subjects (n= 332)	
	No.	%	No.	%
Experts groups				
Academic	10	18.9	Not applicable	
Professional	43	81.1		
Age				
22-< 30	5	9.5	117	35.2
30-< 40	20	37.7	179	54.0
≥ 40	28	52.8	36	10.8
Mean ± SD	42.90±6.8		32.58±6.8	
Educational qualifications				
Bachelor of Nursing Sciences	20	37.7	295	88.9
Master of Nursing Sciences	20	37.7	36	10.8
Doctorate of Nursing Sciences	13	24.6	1	0.3
Gender				
Male	0	0	53	16.0
Female	53	100	279	84.0
Years of nursing experience				
1-< 10	6	11.3	209	63.0
10-< 20	20	37.7	110	33.1
≥ 20	27	51.0	13	3.9
Mean ± SD	21.23±4.7		8.41±3.6	
Years of academic/ managerial/unit experience				
1-< 10	14	26.4	238	71.7
10-< 20	33	62.3	85	25.6
≥ 20	6	11.3	9	2.7
Mean ± SD	16.85±5.7		7.89±2.9	
Working units				
Medical units	Not applicable		89	26.8
Surgical units			69	20.8
Intensive and critical care units			174	52.4

Table (2): Agreement of panel of experts on the general form of the developed instrument for measuring Bachelor's Degree Nursing Professionalism (face validity). (n=53)

Opinionnaire items	Agree		Disagree	
	No.	%	No.	%
1. Does the instrument look like questionnaire for measuring bachelor's degree nursing professionalism?	53	100	0	0
2. Are the questions of demographic characteristics data about the study subjects enough?	53	100	0	0
3. Does the instrument title denote the intended work (for measuring bachelor's degree nursing professionalism)?	53	100	0	0
4. Does the instrument format include the main representative attributes related to bachelor's degree nursing professionalism?	53	100	0	0
5. Does the instrument format include representative items for every attribute?	53	100	0	0
6. Is the number of items for every attribute suitable?	50	94.3	3	5.7
7. Is the proportion of items devoted to each attribute adequate in relation to all attributes?	49	92.5	4	7.5
8. Are the items statements (wording) clear and comprehensive?	53	100	0	0
9. Is the rating system with 5 Likert scale from 5 (strongly agree) to 1 (strongly disagree) correlated with the criteria of the developed instrument?	53	100	0	0

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 8, Issue 1, pp: (376-389), Month: January - April 2021, Available at: www.noveltyjournals.com

Table (3): Content validity scores for the omitted items of the developed BDNP instrument (first version)

Omitted items (first version)	Mean	SD	CVI
1. Professional Organization Participation	**17.86**	**2.2**	**0.89**
Although I would like to, I really do not read the journal too often.	2.28	1.23	0.57
2. Public (Community) Services Orientation (all items retained)	**16.00**	**00**	**1.00**
3. Autonomy and Self-Regulation	**41.25**	**4.6**	**0.86**
I am my own boss in almost every work-related situation.	2.45	1.2	0.61
My colleagues have a pretty idea about each other's competence.	2.37	.481	0.59
My colleagues pretty well know how well we all do in our work.	2.26	1.38	0.56
There is much opportunity to judge how other person does the work.	2.29	1.4	0.57
4. Sense of Calling	**18.39**	**2.1**	**0.92**
There are very few people who do not really believe in their work.	2.39	1.41	0.59
5. Responsibility and Accountability	**34.73**	**3.9**	**0.87**
I assume the primary responsibility for continuing professional development and competence to practice safely and provide client centered care.	1.97	1.5	0.49
I advocate for and contribute to the development and implementation of policies, programs, and practices relevant to the practice setting and the nursing profession.	2.26	1.4	0.56
I recognize and take action in situations where patient safety is actually or potentially compromised.	2.50	1.5	0.62
6. Competency Based Practice	**26.09**	**00**	**0.93**
I participate in quality practice environment that encourage learning and integration of research findings and evidence-informed practice.	2.09	1.04	0.52
7. Client Centered Practice (all items retained)	**24.00**	**00**	**1.00**
8. Professional Relationships and Leadership (all items retained)	**20.00**	**00**	**1.00**
9. Professional Standards of Practice	**45.96**	**2.86**	**0.88**
I respect patients' right to privacy and confidentiality.	2.10	1.23	0.52
I work co-operatively.	1.86	.754	0.46
I practice within the limit of the law, guidance, policies, standards, rules, and regulations.	2.00	1.22	0.50
10. Advocacy	**26.10**	**1.54**	**0.93**
I advocate for and work with others to create policies and processes that provide ethical guidance to all nurses.	2.10	.65	0.52
11. Spirit of Inquiry	**29.89**	**0.78**	**0.93**
I participate in committees/unit based activities to improve quality, safety, and cost effective care.	1.89	0.77	0.47
12. Collegiality and Collaboration (all items retained)	**28.00**	**00**	**1.00**
13. Promote Innovation and Visionary	**18.00**	**1.20**	**0.90**
I think creatively and participate in quality improvement.	2.00	1.3	0.50

Omitted items (CVI< 0.70)

Table (4): The omitted items from the second version of the developed instrument for measuring BDNP based on internal consistency reliability evaluation.

Omitted items (attribute)	Cronbach's alpha if item deleted
1. The professional organization does not really do too much for the average member. (professional organization participation)	.746
2. I participate in diseases detection campaigns to define the community health care requirements.(public services orientation)	.812
3. Most of my decisions are reviewed by other people.(autonomy and self-regulation)	.783
4. I decline the assignment when I haven't appropriate education and experience to carry out it.(autonomy and self-regulation)	.803

5. I establish, maintain, and appropriately end professional therapeutic relationships with patients and their families.(client centered practice)	.892
6. I prioritize, manage time and effectively deal with risk.(professional relationships and leadership)	.845
7. I keep clear and accurate records relevant to practice.(professional standards of practice)	.882
8. I act as intermediate between patients, families, and other members of health care team.(advocacy)	.817
9. I consult healthcare team members for suggestions to improve health care outcomes.(spirit of	.851

Table (5): Total reliability analysis of the developed instrument for measuring BDNP (final version).

Developed instrument attributes (final version)	No. of items	Cronbach's alpha calculation	Intraclass correlation (ICC)
1. Professional organization participation	3	.746	.811
2. Public (Community) services orientation	3	.812	.878
3. Autonomy and self-regulation	6	.803	.833
4. Sense of calling	4	.816	.901
5. Responsibility and accountability	7	.780	.922
6. Competency based practice	6	.830	.846
7. Client centered practice	5	.892	.890
8. Professional relationships and leadership	4	.845	.894
9. Professional standards of practice	9	.882	.827
10. Advocacy	5	.817	.799
11. Spirit of inquiry	6	.851	.888
12. Collegiality and collaboration	7	.790	.914
13. Promote innovation and visionary	4	.751	.905
Total final version of the developed instrument	**69**	**.965**	**.925**

* Significant at P ≤ 0.05

Table (6): Construct validity (convergent validity) of the developed instrument for measuring BDNP (final version).

Developed instrument attributes (final version)	KMO Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity		
		x^2	df	Sig.
1. Professional organization participation	.688	203.562	3	.000*
2. Public (Community) services orientation	.679	190.192	3	.000*
3. Autonomy and self-regulation	.843	542.925	15	.000*
4. Sense of calling	.615	314.199	6	.000*
5. Responsibility and accountability	.770	626.107	21	.000*
6. Competency based practice	.715	436.968	15	.000*
7. Client centered practice	.812	440.760	10	.000*
8. Professional relationships and leadership	.681	356.319	6	.000*
9. Professional standards of practice	.848	1206.514	36	.000*
10. Advocacy	.804	564.437	10	.000*
11. Spirit of inquiry	.778	418.818	15	.000*
12. Collegiality and collaboration	.778	656.778	21	.000*
13. Promote innovation and visionary	.718	331.043	6	.000*
Total final version of the developed instrument	.919	12716.312	2346	.000*

KMO > 0.6: sample adequate

* Significant at P ≤0.05

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 8, Issue 1, pp: (376-389), Month: January - April 2021, Available at: www.noveltyjournals.com

Table (7): Construct validity (divergent validity) of the developed instrument for measuring BDNP (final version).

Instrument attributes		Professional participation (1) organization	Public (Community) services orientation (2)	Autonomy and self-regulation (3)	Sense of calling (4)	Responsibility and accountability (5)	Competency based practice (6)	Client centered practice (7)	Professional relationships and leadership (8)	Professional standards of practice (9)	Advocacy (10)	Spirit of inquiry (11)	Collegiality and collaboration (12)	Promote innovation and visionary (13)	Total
Attribute (1)	r		.384	.538	.410	.543	.484	.335	.447	.476	.310	.474	.461	.514	.625
	p	1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (2)	r			.490	.492	.485	.471	.465	.315	.567	.517	.435	.513	.469	.648
	p		1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (3)	r				.471	.668	.575	.605	.504	.584	.441	.524	.548	.550	.767
	p			1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (4)	r					.551	.497	.489	.417	.601	.506	.437	.549	.516	.689
	p				1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (5)	r						.644	.610	.546	.761	.632	.569	.723	.637	.863
	p					1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (6)	r							.509	.649	.674	.555	.647	.626	.614	.808
	p						1	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (7)	r								.326	.636	.540	.437	.636	.446	.726
	p							1	.000**	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (8)	r									.473	.441	.574	.566	.584	.686
	p								1	.000**	.000**	.000**	.000**	.000**	.000**
Attribute (9)	r										.656	.644	.737	.636	.876
	p									1	.000**	.000**	.000**	.000**	.000**
Attribute (10)	r											.516	.651	.586	.750
	p										1	.000**	.000**	.000**	.000**
Attribute (11)	r												.558	.640	.759
	p											1	.000**	.000**	.000**
Attribute (12)	r													.598	.841
	p												1	.000**	.000**
Attribute (13)	r														.782
	p													1	.000**
Total	r														
	p														1

r: Pearson correlation coefficient ** Highly significant at $P \leq 0.01$

Interpretation of r: Strong (0.75-0.99) Intermediate (0.25-0.74) Weak (0.1-0.24)

Novelty Journals

ISSN 2394-7330

International Journal of Novel Research in Healthcare and Nursing
Vol. 8, Issue 1, pp: (376-389), Month: January - April 2021, Available at: www.noveltyjournals.com

IV. DISCUSSION

Nursing professionalism is an essential component in achieving a healthy work environment [11, 35]. Moreover, the rapid changes in value systems of society created new nursing environment that require professional nursing [36]. Zaccardi [37] specified four phases of professionalization, as follows: recognizing the attributes of professionalism; modeling those who idealize those attributes; internalizing the professional behaviors; and exhibiting professionalism in practice. Accordingly, the attributes of nursing professionalism need to be clarified and adapted with changes in nursing practices [2]. Hence, developing a valid and reliable instrument for measuring bachelor's degree nursing professionalism is necessary to define those attributes [38].

Regarding face validity of the developed instrument for measuring BDNP, all panel of experts both academic and professional expressed the view that the developed instrument is a comprehensive instrument for measuring BDNP. They agreed on adequacy of questions of demographic characteristics data; relevance of the instrument title to the intended work; representativeness of instrument attributes and its items; clearance and comprehensiveness of items statements; and relevance of 5 Likert scale with the criteria of the developed instrument. This may be related to that the thorough review of related literature and analysis of the qualitative data, were effective. Therefore, the developed instrument has acceptable face validity. This result is consistent with Abd El Rahman and Atalla [39], who mentioned that the panel of experts is the evaluator of the face validity of the developed instrument through testing its intelligibility and relevance. Moreover, Fitzpatrick [40] concluded that face validity is an essential step in developing the instrument because it is evidence that the instrument truly measures and relevant to measure the intended work.

Concerning content validity of the developed instrument for measuring BDNP, the Scale Content Validity Index (S-CVI) was > 0.85 for all instrument attributes. Therefore, the developed instrument has excellent content validity. In this respect, Mendonça et al. [41] and Rodrigues et al. [42] reported that the S-CVI ≥ 0.80 is considered excellent. Moreover, the Items Content Validity Index (I-CVI) for the majority of items (78 out of 94) of the first version of the developed instrument were ≥ 0.85, which were retained in the second version of the developed instrument because they were considered relevant. This is supported by Zamanzadeh et al. [43], who stated that if I-CVI > 0.79, the item is relevant. Consequently, the remaining 16 items of the first version of the developed instrument were omitted because its I-CVI was < 0.70 [34, 43]. This may be because of the higher percent of the cut-off point to maintaining the items. This goes in line with Ibiyemi et al. [44], who determined that if 50 percent or more of academic experts rated an item as important, it is maintained.

As regards to internal consistency reliability of the second version of the developed BDNP instrument, nine items were omitted to enhance its internal consistency. This may be attributed to the lack of awareness of professional nurses about the applicability of these items. Also, professional nurses' participation in diseases detection, performing their assignment based on their experience, managing of time and risk, keeping accurate records, and consulting with health teams for suggestions, are the integral parts of professional nursing practices that depend upon their practice settings and have positive impact on quality of care [45]. Moreover, Elhanafy and Abdelgadir [46] indicated that the nurses spend more time with the patients and build trust relationship with them, which were identified as nurses' participation in the delivery of high quality care. This is in line with Fitzpatrick and Kazer [47], who mentioned that reliability is the consistency of responses on self-report and norm-referenced measures of attitudes and behaviors. Likewise, any score obtained from an instrument includes the individual's true pattern and error variability. Hence, maximizing the reliability of the instrument helps to reduce the random error associated with the scores.

In relation to internal consistency reliability of the final version of the developed BDNP instrument, it has excellent internal consistency. Furthermore, all instrument attributes have good internal consistency. This may be due to that the final version of the developed instrument includes all attributes and the main items that measure Bachelor's Degree Nursing Professionalism. Moreover, these attributes and items are consistent. This is compatible with Taber [48], who stated that Cronbach's alpha (α) ranges from 0.0 to 1.0, and it quantifies the degree to which items and attributes of an instrument are consistent. Moreover, Singh [49] indicated that α = 0.7 or greater is considered as sufficiently reliable.

Furthermore, the final version of the developed instrument has excellent intraclass correlation. This may be related to compatibility of the items of each attribute. Also, professional nurses consistently apply the items of: sense of calling attribute; responsibility and accountability attribute; collegiality and collaboration attribute; and promote innovation and visionary attribute. This is supported by Bogaert and Clarke [50], who found that professional nurses: are convinced that

nursing as a profession is important for the benefit of patients and hospitals; accept their responsibilities and accountability for their professional nursing practices; collaborate with health care teams to enhance quality of care; and apply new knowledge, innovations, and improvements to reinforce structure and process focusing on outcomes that are tracked, trended, improved over time, and benchmarked.

Moreover, there is a highly significant positive correlation between the total final version of the developed BDNP instrument and its attributes. Also, there is a highly significant positive correlation between all attributes of the developed instrument with each other. This may be because of there are significant differences between all attributes of the developed instrument for measuring BDNP, namely: professional organization participation; public (community) services orientation; autonomy and self-regulation; sense of calling; responsibility and accountability; competency based practice; client centered practice; professional relationships and leadership; professional standards of practice; advocacy; spirit of inquiry; collegiality and collaboration; and promote innovation and visionary. This is in harmony with Ichikawa et al. [51], who confirmed that the conceptual framework of nurses' professionalism includes: accountability; self-improvement; professional membership; professional attitude; and advancement of the nursing profession. Moreover, Balogun et al. [52] mentioned that measuring of professionalism requires to measure: clinical competence; accountability; collegiality and collaboration; autonomy; a spirit of inquiry; innovation and visionary; advocacy; and ethics and values.

V. CONCLUSION

The findings of this study concluded that the developed instrument for measuring Bachelor's Degree Nursing Professionalism (BDNP) has acceptable face validity; excellent content validity and reliability; and construct validity.

VI. RECOMMENDATIONS

In the light of the study findings, it is recommended that:

A. Hospital administrators should:

- Implement the valid and reliable developed instrument for measuring Bachelor's Degree Nursing Professionalism.
- Allow bachelor's degree nurses to participate in hospital committees.
- Build autonomy in bachelor's degree nurses by providing them with more authorities and responsibilities.
- Encourage bachelor's degree nurses to participate in applying the results of research projects through the co-operation between the Faculties of Nursing and the hospitals.
- Support bachelor's degree nurses for continuing education to strengthen their professional self-concept.
- Create a supportive work climate, which is based on trust, respect, collegiality, and collaboration.
- Conduct programs for bachelor's degree nurses in different healthcare units to enhance their professionalism.

B. Nurses holding Bachelor's degree should:

- Update their knowledge by continuous reading about health care problems, attending training programs, and asking questions to health care professionals.
- Maintain the good reputation of the nursing profession to improve the public image of nursing.
- Demonstrate the attributes of nursing professionalism in their daily practice as it impacts positively on patient satisfaction and health outcomes.

C. Faculty staff members should:

- Teach the nursing students that practicing effectively and putting the needs of the patients ahead of the self-interest, are basic tenets of nursing professionalism.
- Have the responsibility to affect the professional role development of their nursing students.
- Increase the nursing students' awareness of professional nursing values to prepare them to provide care of patients in an ethical and professional manner.
- Have the responsibility to be a role model while teaching the nursing students, in behaving professionally.

Future research studies

- Apply the developed Bachelor's Degree Nursing Professionalism (BDNP) instrument in different health care organizations.

- Develop a program to enhance Bachelor's Degree Nursing Professionalism.

ACKNOWLEDGEMENTS

Our deepest thanks to the panel of experts (academic and professional) and to the hospital directors for their support, encouragement and valuable participation.

REFERENCES

[1] Shohani M and Zamanzadeh V. Nurses' Attitude towards Professionalization and Factors Influencing It. Journal of Caring Sciences. 2017; 6(4): 345-57.

[2] Kim Y, Jung Y, Min J, Song E, et al. Development and validation of a nursing professionalism evaluation model in a career ladder system. PLOS ONE. 2017; 12(10): e0186310. Available at: https://doi.org/10.1371/journal. pone.0186310.

[3] Solomon Y, Beker J, and Belachew T. Professionalism and Its Predictors among Nurses Working in Jimma Zone Public Hospitals, South West Ethiopia. Journal of Nursing Care. 2015; 4(5): 292-300.

[4] Hsieh S and Hsu L. An outcome-based evaluation of nursing competency of baccalaureate senior nursing students in Taiwan. Nurse Education Today. 2013; 33(12):1536-45.

[5] Miller B. A model for professionalism in nursing. Today's OR Nurse. 1988; 10(9):18–23.

[6] Karadağ A, Addis G, Çalışkan N, Göçmen-Baykara Z, et al. A longitudinal study of perceptions of self-concept and professional self-concept in Turkish nursing students. International Journal of Human Sciences. 2013; 10(1):1355-65.

[7] Ali H. Societal factors that induce career change decision among nurses working at different Sohag city hospitals. Egyptian Nursing Journal. 2018; 14(2):130-40.

[8] World Health Organization (WHO). Sixty-Eighth World Health Assembly. 2015. Available at: https://www. who.int/mediacentre/events/2015/wha68/en/.last retrieved on 26 May 2015.

[9] Dubree M, Kapu A, Terrell M, Pichert J, et al. Nurses' essential role in supporting professionalism. American Nurse Today. 2017; 12(4): 6-8.

[10] American Nurses Association. Nurses' Roles and Responsibilities in Providing Care and Support at the End of Life. Silver Spring, Washington: Nurses books Organization; 2016.

[11] Doost F, Moghadas T, Momeni M, and Rafiei H. Factors Influencing Professionalism: A Cross Sectional Study among Iranian Registered Nurses. Journal of Nursing and Health Science. 2016; 5(3): 47-9.

[12] Alidina K. Professionalism in Post-Licensure Nurses in Developed Countries. Journal of Nursing Education and Practice. 2013; 3(5):128-37.

[13] Elhanafy E and Saleh W. Professional Identity among Nurses' At Mansura University Hospital. IOSR Journal of Nursing and Health Science (IOSR-JNHS). 2018; 7(5): 88-92.

[14] Hall R. Professionalism and bureaucratization. American Sociological Review. 1968; 33(1): 92-104.

[15] Registered Nurses Association of Ontario. Professionalism in Nursing: Healthy Work Environments Best Practice Guidelines. Toronto, Canada: Registered Nurses Association of Ontario; 2007.

[16] Nurses Association of New Brunswick. Standards of Practice for Registered Nurses. 2019. Available at: http://www.nanb.nb.ca/media/resource/NANB2019RNPracticeStandars-E-web.pdf

[17] Nursing and Midwifery Council. The code: professional standards of practice and behavior for nurses, midwives and nursing associates. 2015. Available at: https://www.nmc.org.uk/globalassets/sitedocuments/nmcpublications/nmc-code.pdf. Last retrieved 22 March 2019.

[18] Salmond S and Echevarria M. Healthcare Transformation and Changing Roles for Nursing. Journal of Orthopedic Nursing. 2017; 36(1): 12-25.

[19] Tanabe S, Yanagisawa S, Waqa-Ledua S, and Tukana M. Identifying characteristic features of community orientation among community health nurses in Fiji. Nursing Open. 2019; 6:1113–23.

[20] Shohani M, Rasouli M, and Sahebi A. The Level of Professional Autonomy in Iranian Nurses. Journal of Clinical and Diagnostic Research. 2018; 12(5): LC01-LC04.

[21] Cao Y, Liu J, Liu K, Yang M, et al. The mediating role of organizational commitment between calling and work engagement of nurses: A cross-sectional study. International Journal of Nursing Sciences. 2019; 6(3): 309-14.

[22] College of Registered Nurses of Nova Scotia. Standards of Practice for Registered Nurses. 2017. Available at: https://crnns.ca/wp-content/uploads/2015/02/RNStandards.pdf. Last retrieved 1 December 2017.

[23] Skela-Savic B, Hvalic-Touzery S, and Pesjak K. Professional values and competencies as explanatory factors for the use of evidence-based practice in nursing. Journal of Advanced Nursing. 2017; 73(8): 1910-23.

[24] Newell S and Jordan Z. The patient experience of patient-centered communication with nurses in the hospital setting: a qualitative systematic review protocol. JBI Database of Systematic Reviews & Implementation Reports. 2015; 13(1): 76-87.

[25] Institute of Medicine. The Future of Nursing: Leading Change, Advancing Health. Washington, DC: National Academies Press; 2011.

[26] Masters K. Role Development in Professional Nursing Practice, 5th edition. Burlington, MA: Jones & Bartlett Learning; 2018: p 268-70.

[27] Nsiah C, Siakwa M, and Ninnoni J. Registered Nurses' description of patient advocacy in the clinical setting. Nursing Open. 2019; 6:1124–32.

[28] Harper M, Warren J, Bradley D, Bindon S, et al. Nursing Professional Development's Spirit of Inquiry Focus Areas. Journal for Nurses in Professional Development. 2019; 35(3):118-24.

[29] Busari J, Moll F, and Duits A. Understanding the impact of inter professional collaboration on the quality of care: a case report from a small-scale resource limited health care environment. Journal of Multidisciplinary Healthcare. 2017; 10: 227-34.

[30] Kaya N, Turan N, and Aydin G. A Concept Analysis of Innovation in Nursing. Procedia - Social and Behavioral Sciences. 2015; 195: 1674-8.

[31] Egypt: Administrative Division (Governorates and Districts). 2019. Available at: https://www.citypopulation.de/en/egypt/admin/

[32] Thompson S. Sampling, 3rd ed. Hoboken, New Jersey: John Wiley & Sons; 2012: p59-60. Available at: https://www.wiley.com/en-us/Sampling%2C+3rd+Edition-p-9780470402313. Last retrieved on 1 Jan 2019.

[33] Slavec A and Drnovsek M. A Prospective on a Scale Development in Entrepreneurship Research. Economic and business review. 2012; 14(1): 39-62.

[34] Hair J, Black W, Babin B, and Anderson R. Multivariate data analysis, 7th ed. Upper Saddle River, NJ: Prentice-Hall; 2010.

[35] Poorchangizi B, Farokhzadian J, Abbaszadeh A, Mirzaee M, et al. The importance of professional values from clinical nurses' perspective in hospitals of a medical university in Iran. BMC Medical Ethics. 2017; 18:20.

[36] Poorchangizi B, Borhani F, Abbaszadeh A, Mirzaee M, et al. The Importance of Professional Values from Nursing Students' Perspective. BMC Nursing. 2019; 18:26.

[37] Zaccardi J. Development of Professionalism in Practical Nursing Students. Doctoral dissertation, Baker University, 2017.

[38] Caldwell H, and Miller K. Professional Values in Baccalaureate Nursing Students. Honors Research Projects. 2016: 338. Available at: http://ideaexchange.uakron.edu/honors_research_projects/338.

[39] Abd El Rahman R and Atalla A. Developing an Instrument to Measure Penetration of Lean Thinking For Frontline Nursing Staff. Journal of Nursing and Health Science (IOSR-JNHS). 2018; 7(4): 83-95.

[40] Fitzpatrick J. Encyclopedia of Nursing Research, 4th ed. New York, NJ: Springer Publishing Company; 2018: p 616.

[41] Mendonça S, Zanetti M, Sawada N, Barreto I, et al. Construction and Validation of the Self-Care Assessment Instrument for Patients with Type 2 Diabetes Mellitus. Revista Latino-Americano Enfermagem. 2017; 25:e2890.

[42] Rodrigues I, Adachi J, Beattie K, and Mac-Dermid J. Development and validation of a new tool to measure the facilitators, barriers and preferences to exercise in people with osteoporosis. BMC Musculoskeletal Disorders. 2017; 18: 540.

[43] Zamanzadeh V, Ghahramanian A, Rassouli M, Abbaszadeh A, et al. Design and Implementation Content Validity Study: Development of an Instrument for Measuring Patient-Centered Communication. Journal of Caring Sciences. 2015; 4(2): 165-78.

[44] Ibiyemi A, Adnan Y, Daud M, and Olanrele S. A content validity study of the test of values' support for capturing sustainability in the valuation process in Nigeria. Pacific Rim Property Research Journal. 2019; 25(3): 177-93.

[45] Molina-Mula J and Gallo-Estrada J. Impact of Nurse-Patient Relationship on Quality of Care and Patient Autonomy in Decision-Making. International Journal of Environmental Research and Public Health. 2020; 17:835.

[46] Elhanafy E and Abdelgadir I. Developing and Validating Nursing Care Standard for Patients Receiving Chemotherapy. IOSR Journal of Nursing and Health Science (IOSR-JNHS). 2019; 8 (1): 68-79.

[47] Fitzpatrick J and Kazer M. Encyclopedia of nursing research. 3rd ed. New York, NJ: Springer Publishing Company; 2012: p 434.

[48] Taber K. The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. Research Science Education. 2018; 48: 1273-96.

[49] Singh A. Common Procedures for Development, Validity and Reliability of a Questionnaire. International Journal of Economics, Commerce and Management. 2017; 5(5): 790- 801.

[50] Bogaert P and Clarke S. The Organizational Context of Nursing Practice: Concepts, Evidence, and Interventions for Improvement. New York, NJ: Springer International Publishing AG; 2018: p 7-20.

[51] Ichikawa N, Yamamoto-Mitani N, Takai Y, Tanaka M, et al. Understanding and Measuring Nurses' Professionalism: Development and Validation of the Nurses' Professionalism Inventory. Journal of Nursing Management. 2020; 28: 1607-18.

[52] Balogun J, Mbada C, Balogun A, and Okafor U. Development and Evaluation of the Readability, Stability and Internal Consistency of A Psychometric Instrument Designed to Assess Physiotherapists' Knowledge and Attributes Of Professionalism. International Journal of Medical and Health Sciences Research. 2017; 4(6): 102-17.