

The Aptitude Level of Newly Admitted Students in Nursing Courses Studying at Selected Nursing Colleges of Punjab

Ms. Muskan Sharma¹, Mrs. Ramankalia², Ms. Manpreet Kaur³

¹Nursing Tutor, ²Principal, ³Lecturer,

^{1,2,3}Saraswati College of Nursing, Kurali, Chandigarh, India

ABSTRACT

It is important to understand that choosing a career does not simply mean deciding upon the ultimate career profile which will guide you through the gates of success and fame; rather it means that a person should have the potential to grow with that career and achieve success through his/her decision. That is why it is very important for every student to understand what is embodied within the word. Every career option requires a particular aptitude combination that should match with the individual's potential ability to grow with that career. The aim of present study is to assess the aptitude level of newly admitted nursing students studying at various nursing colleges in Punjab. Non experimental approach was used. The conceptual framework of the study was developed on the theory of Bloom's taxonomy of learning. Total 330 subjects were enrolled by convenience sampling technique. Socio-demographic sheet and Nursing Aptitude Test (NAT) were used to collect data to assess the aptitude level of newly admitted students in nursing courses studying at selected nursing colleges of Punjab. Descriptive and inferential statistics were used for data analysis. Results showed that 76% subjects had average cognition level followed by 21.5% subjects had good cognitive ability while only 2.4% subjects had average cognitive ability. More than half of the subjects i.e. 52.1% had strong affective behaviour and 47.8% subjects had average affective behaviour. A significant association found between cognitive domain and socio demographic characteristics like type of nursing course, senior secondary education stream, marks (%) in +2 class and mother education at level of significance <0.005. Similarly it was found that course, senior secondary education stream were significantly associated with affective domain at level of significance <0.005. The study concluded that most of the subjects had average cognitive ability and strong affective behaviour.

KEYWORDS: *Aptitude, Nursing Students*

INTRODUCTION:

MATERIAL AND METHOD:

Quantitative Non Experimental research approach was used to access the aptitude level of newly admitted nursing students. Descriptive research design- survey design was used and the samples was selected by convenient sampling technique. Socio-demographic sheet and Nursing Aptitude Test (NAT) were used to collect data to assess the aptitude level of newly admitted students in nursing courses.

Section A: Demographic Profile: It was comprised of 17 items of demographic variables like Age, Gender, Religion, Course of nursing, Area of living, Educational stream, Type of school, Board of education, Marks in Senior Secondary Education, Parents education, Parents occupation, Total family income, Birth order, Number of siblings, Source of

information about nursing program, Reason for joining nursing and any family member already in nursing profession.

Section B: Nursing Aptitude Test: NAT was used to assess the aptitude level among nursing students who were newly admitted in nursing courses i.e. GNM, BSc (N) and Post Basic BSc (N) in the colleges of Punjab.

Nursing Aptitude Test (NAT) comprised of different sub domains given below:

1. Cognitive domain
2. Affective Domain
3. Conative Domain

How to cite this paper: Ms. Muskan Sharma | Mrs. Ramankalia | Ms. Manpreet Kaur "The Aptitude Level of Newly Admitted Students in Nursing Courses Studying at Selected Nursing Colleges of Punjab" Published in International Journal of Trend in Scientific Research and Development (ijtsrd), ISSN: 2456-6470, Volume-4 | Issue-6, October 2020, pp.1120-1126, URL: www.ijtsrd.com/papers/ijtsrd33579.pdf



Copyright © 2020 by author(s) and International Journal of Trend in Scientific Research and Development Journal. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0) (<http://creativecommons.org/licenses/by/4.0>)



RESULT

The results are organized according to the objectives under the study

Table 1(a):- Frequency and percentage distribution of subjects as per their Socio-demographic characteristics
N=330

Sr. No	Characteristics	n (%)
1	Age:	
	17-20	274 (83.0)
	21-25	053 (16.1)
2	Gender:	
	Female	315 (95.5)
	Male	015 (04.5)
3	Religion:	
	Hindu	147 (44.5)
	Muslim	013 (03.9)
	Sikh	160 (48.5)
4	Area of living:	
	Rural	173 (52.4)
5	Course:	
	B.sc (N) 1 st year	194 (58.8)
	GNM 1 st year	097 (28.4)
6	Type of School:	
	Government	174 (52.7)
7	Private	156 (47.3)
	Co-Education:	
	Primary Classes	005 (01.5)
	Middle classes	012 (03.6)
	Secondary classes	024 (07.3)
	Senior Secondary classes	064 (19.4)
Complete education from co-education schools	205(62.1)	
No co-education	020 (06.6)	
8	Board Of Senior Secondary Education:	
	State Board	191(57.9)
9	CBSE	139 (42.1)
	+2 stream:	
	Medical	209(63.3)
	Non medical	019(05.7)
10	Arts	085(25.7)
	Commerce	017(05.2)
10	Marks (%) In Senior Secondary Education:	
	40-50%	008 (02.4)
	51-60%	106 (32.1)
	61-70%	147 (44.5)
	71-80%	052 (15.8)
Above 80%	017 (05.2)	
11	Education Of Father:	
	No formal education	019 (05.8)
	Elementary education(1st- 8th grade	033 (10.0)
	Secondary education(9th and 10th Grade)	081 (24.5)
	Senior secondary education (+1 and +2 grade)	110 (33.3)
Graduation and above	087 (26.4)	
12	Education Of Mother:	
	No formal education	028(08.5)
	Elementary education(1st- 8th grade)	049 (14.8)
	Secondary education(9th and 10th Grade)	093 (28.2)
	Senior secondary education (+1 and +2 grade)	097 (29.4)
Graduation and above	063 (19.1)	

13	Father Occupation: Govt employee Private job Business Agriculture Unemployed	104 (31.5) 090 (27.3) 054 (16.4) 072 (21.8) 010 (03.0)
14	Mother Occupation: Govt employee Private job Business Home maker	022 (06.7) 020 (06.1) 004 (01.2) 284 (86.1)
15	Total Family Income: 1. Below10,000 2. 10001-50000 3. 50001-100000 4. Above 100000	067 (20.3) 169 (51.2) 067 (20.3) 027 (08.2)
16	Birth Order: 1. First child 2. Middle child 3. Last child	164 (49.7) 081 (24.5) 085 (25.8)
17	Number of siblings: 1. 1 2. 2 3. 3 4. More than 3 5. No siblings	076 (23.0) 134 (40.6) 074 (22.4) 031 (09.4) 015 (04.5)
18	Source Of Information Of Nursing: 1. Advertisement 2. Parents 3. Relatives 4. Friends 5. Any other	023 (07.0) 174 (52.7) 071 (21.5) 045 (13.6) 017 (5.2)
19	Reason For Joining Nursing Programme: 1. Self interest 2. Parents choice 3. Peer pressure 4. Any other	209 (63.3) 104 (31.5) 005 (01.5) 012 (3.6)
20	Any Family Member In Nursing: 1. Yes 2. No	112 (33.9) 218 (66.1)

Table1 (a) shows the frequency and percentage distribution of subjects as per their socio-demographic characteristics.

As per age most of 274 (83%) subjects were in the age group of 17-20 years. Most of the subjects were female i.e. 315 (95.5%) and only 15(4.5%) were male. Nearly half of the subjects were Sikhs 160(48.5%), 147(44.5%) of subjects were Hindus, 13(3.9%) subjects were Muslims and only 10(3.0%) were Christian. More than half of the subjects 173(52.4%) were rural residents and 157 subjects (47.5%) were urban residents. Most of 194(58.8%) subjects were from B.sc (N) 1styear, 97(29.4%) were from GNM 1st year and only 39(11.8%) from Post Basic B.sc (N) 1st year. Nearly half of the subjects i.e. 174(52.7%) were from Govt schools. Majority of subjects i.e. 205 (62.1%) had completed their education from coeducation schools. More than half of the subjects i.e. 191(57.8%) passed senior secondary classes from state board and 139(42.1%) subjects had CBSE board. Majority of the subjects i.e. 209(63.3%) were from Medical stream. Less than half of subjects (44.5%) scored between 61-70%. As per education of subject's father, only 87(26.4%) were graduated and above. On the basis of education of subject's mother, one third of 97 (29.4%) mothers were educated up to senior secondary classes. As per occupation of fathers, one third 104(31.5%) were Govt. Employees, As per occupation of mothers most of the mothers i.e. 284(86.1%) were homemakers. Nearly half of the subjects (51.2%) had family income between Rs.10001-50000. Nearly half of the subjects i.e. 164(49.7%) were first child, 85(25.8%) subjects were last child. Less than 50 percent 134(40.6%) subjects had two siblings Half of the subjects 174 (52.7%) came to know about nursing through their parents, Majority of the subjects i.e. 209(63.3%) joined nursing because of self interest, Most of the subjects i.e. 218(66.1%) had no family member in nursing profession while 112(33.9%) had already one or other family member in nursing profession.

TABLE 2:-Frequency and percentage distribution of subjects as per their overall cognitive ability

N=330

Sr. No.	Cognitive Ability	N (%)
1	Good	071(21.5)
2	Average	251 (76.0)
3	Below Average	008 (02.4)

Table 2 shows the frequency and percentage distribution of subjects as per their overall cognitive ability. Majority of the subjects i.e. 251(76.0%) had average cognitive domain, 71(21.5%) subjects had good cognitive domain, whereas only 08 (2.4%) subjects had below average cognitive domain.

TABLE 3:- Frequency and percentage distribution of subjects as per sub domains of cognitive ability

N=330

Sr. No.	Sub Domains of cognitive ability	Good	Poor
1	Applied sciences	257(77.8)	073(22.1)
2	Judgment	161(48.7)	169(51.2)
3	Language skills	312(94.5)	018(05.4)
4	Comprehension	098(29.6)	232(70.3)

Table 3 shows the frequency and percentage distribution of subjects as per sub domains of cognitive ability. More than half of the subjects i.e. 257(77.8%) had good knowledge and 73(22.1%) subjects had poor knowledge related to applied sciences. Nearly half of the subjects 169(51.2%) and 161(48.7%) subjects had poor and good judgment respectively. Majority of the subjects i.e. 312(94.5%) had good language skills whereas 018(5.4%) subjects had poor language skills. Maximum subjects i.e. 232(70.3%) had poor reading skills and 98(29.6%) subjects had good reading skills.

Table 4:-Description of sub domains scores of cognitive behavior

N=330

Cognitive Sub Domains	No. of items	Range Of Score	Min	Max	Mean± SD
Applied sciences	15	0-15	1.00	15.00	8.76±2.79
Judgment	10	0-10	.00	9.00	4.37±1.57
Language skills/ Verbal reasoning	17	0-17	1.00	17.00	12.46±2.81
Comprehension	09	0-9	.00	8.00	3.74±1.69

Table 4 depicts sub domains scores of cognitive behavior. Results showed that mean score for applied sciences was (8.76±2.79); mean judgment score was (4.37±1.57), mean language score was (12.46±2.81) and mean comprehension score was (3.74±1.69).

Table 5:- Association of cognitive domain with their selected socio-demographic variables

N=330

Demographic variables	N	MEAN± SD	df	Sig.
Senior Secondary Education Stream:				
1. Medical	209	30.91±5.2	4	.000 ^s
2. Non Medical	19	29.42±5.22		
3. Arts	85	26.0±5.99		
4. Commerce	17	26.5±8.30		
Marks (%) in +2 class:				
1. 40-50%	8	28.0±6.9	4	
2. 51-60%	106	28.6±5.8		
3. 61-70%	147	28.1±5.6		
4. 71-80%	52	32.8±6.3		
5. Above 81%	17	33.8±3.6		
Mother education:				
1. No formal education	28	29.5±6.8	4	.000 ^s
2. Elementary education(1st- 8th grade	49	27.6±4.99		
3. Secondary education(9th and 10th Grade)	93	93±29.4		
4. Senior secondary education (+1 and +2 grade)	97	97±28.1		
5. Graduation and above	63	32.2±5.26		

Table 5 depicts the association of cognitive domain with their selected socio-demographic variables , senior secondary education stream, marks (%) in +2 class and mother education were found significantly associated with cognitive domain at level of significance <0.005.

Table 6:-Mean scores of subjects as per their affective behavior

N=330

Affective Sub Domains	No. of Items	Range of Score	Min.	Max	Mean± SD
Self Awareness	7	7-35	15.00	32.00	22.4± 3.33
Self Regulation	8	8-40	12.00	37.00	25.3± 3.95
Self Motivation	7	7-35	7.00	35.00	24.9± 4.15
Empathy	6	6-30	9.00	30.00	21.4± 3.59
Social Skills	6	6-30	0.00	17.00	19.6± 3.46
Total	34	170-34	68	149	113.97±10.76

Table 6 depicts scores of sub domains of affective behavior showed that mean score for self regulation was high i.e. (25.3±3.95) than self motivation, self awareness, empathy and social skills i.e. (24.9±4.15), (22.4±3.33), (21.4±3.59) and (19.6±3.46) respectively. Total mean score for affective behaviour was 113.97±10.76.

TABLE 7: Frequency and percentage distribution of subjects as per their affective behaviour (sub domains)

N= 330

Sr. No.	Sub Domains	Strong	Weak
1	Self awareness	324(98.1)	006(01.8)
2	Self Regulation	308(93.3)	022(06.6)
3	Self Motivation	321(97.2)	009(02.7)
4	Empathy	319(96.6)	011(3.33)
5	Social skills	310(93.9)	020(06.0)

Table 7 shows the frequency and percentage distribution of subjects as per sub-domains of affective behavior. Almost all the subjects 324(98.1%) had strong self awareness and only 06(1.8%) subjects had weak self awareness. Most of the subjects 308(93.3%) had strong self regulation and 22(6.6%) subjects had weak self regulation. Majority of the subjects i.e. 321(97.2%) were strongly motivated whereas 9(2.7%) subjects had weak self motivation. 319(96.6%) subjects had strong empathy while 11(3.33%) subjects had weak empathy. Majority of the subjects i.e. 310(93.9%) had good social skills and 20(6.0%) subjects had poor social skills.

TABLE 8:- Frequency and percentage distribution of subjects as per their scores in affective domain.

N=330

Sr. No.	Affective Domain	n (%)
1	Strong	172 (52.1)
2	Average	158 (47.8)

Table 8 shows the frequency and percentage distribution of subjects as per their affective sub-domains. As per overall affective behaviour 172 (52.1%) subjects had strong affective behavior and 158(47.8%) subjects had average affective behavior.

TABLE 9:- Association of affective domain with their selected socio-demographic variables

N=330

Demographic variables	N	MEAN± SD	df	Sig.
Course:				
1. B.sc(N) 1 st	194	115.9±11.0	2	.000 ^s
2. GNM 1 st	97	111.21±9.77		
3. Post Basic B.sc (N) 1 st	39	111.18±9.9		
Senior Secondary Education Stream:				
5. Medical	209	15.74±10.8	4	.001 ^s
6. Non Medical	19	111.74±10.6		
7. Arts	85	110.68±9.92		
8. Commerce	17	110.35±9.97		

Table 9 depicts the association of affective domain with their selected socio-demographic variables. As per the ANOVA test association of affective domain with selected socio- demographical variable it was found that course, senior secondary education stream, were found significantly associated with affective domain at level of significance <0.005

Table 10:- Correlation of cognitive and affective domain

N=330

Variable	r	p
Cognitive and affective domain	.299**	.00

**.. Correlation is significant at the 0.01 level (2-tailed).

Table 10 depicts the correlation coefficient value for cognitive and affective domain is .299. Value suggests that there is significant correlation between cognitive domain and affective domain.

Table 10(a):- Correlation of cognitive domains (Verbal reasoning, Comprehension and language)
N=330

Variable	r	p
Cognitive and verbal reasoning	.584**	.00
Comprehension and language	.320**	

** Correlation is significant at the 0.01 level (2-tailed).

Table 10(a) depicts the correlation coefficient value for verbal reasoning and cognitive domain was .584 and for comprehension and language .320. Values suggest there is a significant correlation between the domains.

DISCUSSION: The aim of the current study was to assess aptitude level of newly admitted students in nursing courses studying at selected nursing colleges of Punjab. A non experimental approach was applied. NAT (Nursing Aptitude Test) developed by Dr. Triza Jiwan was used to assess the aptitude level of the students. Data was collected from 330 students studying in various nursing colleges of Punjab. Maximum subjects i.e. 76% had average cognition level followed by 21.5% had good level of cognition and only 2.4% had average cognition. More than half of the subjects i.e. 52.1% had strong affective behavior and 47.8% subjects had average affective behavior. Present study showed that 58.4% subjects had good verbal ability and 41.5% subjects had poor verbal ability in term of English language. A similar study was conducted by **Andrade M , George A , Mayya S , Furtado R(2013)** ²⁰to assess the verbal and numerical aptitude of graduate nursing students at entry level. The results showed that out of the 92 participants, 73(79.3%) had poor verbal ability and 19(20.7%) had average verbal ability in English language.

Present study revealed a positive correlation of verbal reasoning with cognitive aptitude. Similarly **Olatoye R A Aderogba A A (2011)** ²⁴ conducted a study to measure aptitude level and investigated the role of student's verbal and numerical abilities among students' performance on aptitude test. This study provides an empirically based suggestion for students to develop high verbal and numerical skills in order to do well in aptitude test.

The present study findings showed that streams in the senior secondary education of the subject i.e. Medical, Non medical, Arts and Commerce were significantly associated with cognitive domain of subjects with p value of .000. Similarly a study was conducted by **Ogbonnaya N P, Okpuruka P O U, Iheanacho P N Ndu (2014)** ²³ to find out the relationship between entry qualification and academic performance in two basic schools of nursing. The results showed that science students performed better than non science based students.

Results of present study showed that majority of the subjects i.e. 172 (52.1%) had strong affective behavior and 158(47.8%) subjects had average affective behavior. **Beck C E Goodwin C L Hudson M J (1994)** ⁴² conducted a similar study entitled as assessment of student affective behaviors in US medical technology programs. Results revealed that out of 189 students, 186 (98%) provided positive responses to questionnaire based on affective behavior.

CONCLUSION:

On the basis of the findings of the present study following conclusions were drawn:

- Most of the subjects had average cognitive ability and strong affective behavior.
- There was significant statistical association observed among personal characteristics of the subjects like nursing course, Senior Secondary Education Stream, marks in senior secondary education and education of mothers of subjects with cognition of subjects.
- There was significant association of personal characteristics like course and senior secondary education steam with affective behavior of subject.
- On the basis of results it was also concluded that most of the subjects had poor comprehension of reading and half of the subjects had poor clinical judgment.

REFERENCES

- [1] http://shodhganga.inflibnet.ac.in/bitstream/10603/36990/10/10_chapter.pdf
- [2] https://www.queendom.com/tests/take_test.php?idRegTest=3887
- [3] Mbuiya A and Sanneh L" Use of Different Selection Methods in Nursing Education and other Healthcare Professions":HMUAS,2015;5
- [4] Andrade M and George "Development and psychometric evaluation of the tool aptitude towards nursing": NUJHS, 2013;3(2):2-7
- [5] Jiwan T "A pttitude test for students seeking admission to nursing institutes": TNJOI, 2011; 102(8), 174-175.
- [6] <https://books.google.co.in/books?isbn=8131237915>, Psychology for Nurses - Page 102
- [7] <https://www.enotes.com/research-starters/aptitude-testing>
- [8] www.psychology discussion.net, Aptitude: Short Essay on Aptitude (450 Words)
- [9] http://shodhganga.inflibnet.ac.in/bitstream/10603/59387/7/07_chapter%202.pdf
- [10] Pyari P Mishra K Dua B "A study of impact of aptitude in maths as stream selection at high secondary level": IIE , 2016;4(2):141-149
- [11] <http://shodhganga.inflibnet.ac.in/bitstream/10603/60148/4/list%20of%20chapter%201%20pdf.pdf>
- [12] <https://www.allerin.com/blog/role-of-attitude-and-aptitude-in-success>

- [13] <https://idreamcareer.com/blog/importance-of-aptitude-test>
- [14] Cantos A E et al, "Changing learning needs of students nurses: input to the nursing curriculum: APJMR, 2015; 3(3): 108-119
- [15] Dr. Mankar J and Chavan D "Differential Aptitude Testing Of Youth" : IJSRP, 2013; 3(7): 1-6
- [16] <https://u.osu.edu/contech/2015/11/12/the-other-two-learning-domains/>
- [17] Taylor L D "The affective domain in nursing education: Educators perspective: UWM, 2014
- [18] https://www.criteriacorp.com/solution/pre_employment_testing_for_registered_nurses.php
- [19] <https://www.personality-and-aptitude-career-tests.com/nursing-career.htm>
- [20] Andrade M Dr Mayya S Dr George A "Academic performance and nursing aptitude: A correlation": IJSR, 2014; 3(4): 1-6
- [21] Andrade M Dr George A Dr Mayya S Furtado R "Verbal and numerical aptitude of graduate nursing students at entry level": AIIC, 2013: 24-26
- [22] https://storify.com/Girija_Nair/importance-of-aptitude-test-in-choosing-the-right
- [23] Hajbahghrey M A Dianti H "Undergraduate nursing students' compatibility with the nursing profession": BMC, 2005; 5(25):
- [24] Ogbonnaya NP Okpuruka P O U Iheanacho PN Ndu A "Students' Entry Qualification and Academic Performance in Basic Schools of Nursing in Enugu State between 1995 and 1999": CE, 2014; 5(10): 9
- [25] Olatoye R A Aderogba A A "Performance of Senior Secondary School Science Students in Aptitude Test: The Role of Student Verbal and Numerical Abilities": JETERAPS, 2011; 2(6): 431-435.
- [26] Why Aptitude is important while you choose a career? March 2012 available from www.ideamcareer.com
- [27] Talman K Hupil M Puukka P Kulpi H Haavisto E "The predictive value of two on-site selection methods of undergraduate nursing students: A cohort study": JNEP, 2018; 8(7): 12
- [28] Mackoy D "Examining Kaplan Nursing School Entrance Exam for Student Success and Attrition: A Retrospective Review": DCGWU, 2016: 25-37
- [29] Alateren J and Nerdal L "Relationship between High School Mathematics Grade and Number of Attempts Required to Pass the Medication Calculation Test in Nurse Education: An Explorative Study": HC, 2015; 3(2): 351-363.
- [30] Andrade M, Mayya S, George A "Assessment of nursing aptitude on entry to nursing programme: Can it be assessed": IJNE, 2015; 7(3): 187-191
- [31] A H Ghaleb "Aptitude Tests and Successful College Students: The Predictive Validity of the General Aptitude Test (GAT) in Saudi Arabia": IES, 2015; 8(4):1
- [32] Ebuoh C N "Aptitude Tests as A Co-Relate Of Students' Performance In Achievement Tests In Senior Secondary School Biology": IISTE, 2014; 5(29): 11-15
- [33] Lyman K J (2014) "Relationship of affective domain and cognitive performance in paramedic students" USF, 2014 available from http://digitalcommons.sacredheart.edu/nurs_fac/54
- [34] Man C Y Williams B A and Yuyan H B " Nursing student's clinical judgment in high fidelity simulation based learning": JNEP, 2014; 4(5): 7-15
- [35] Beauvais A M Stewart J G Denisco S Beauvais J E "Factors Related to Academic Success among Nursing Students: A Descriptive Correlational Research Study": SHU, 2014: 1-7.
- [36] Ponshe S "English Reading Comprehension as a Predictor for Academic Successes in First Year B. SC. Nursing Course in India": IOSR/NHS, 2013; 2(4): 28-33.
- [37] Arkell S Rutter PM "Numeracy skills of undergraduate entry level nurse, midwife and pharmacy students": NEP, 2012; 12(4): 198-203
- [38] <https://ejournals.ph/article.php?id=6680>.
- [39] Newton Moorey Sarah Gary "Nursing Students' Reading and English Aptitudes and Their Relationship to Discipline-Specific Formal Writing Ability: A Descriptive Correlational Study": NEP, 2010; 31(4): 221
- [40] http://www.academia.edu/26580065/Integrating_Nursing_Quality_with_Achievement_and_Aptitude_Towards_Assessing_Nursing_Potential
- [41] Newton Moorey Sarah Gary "Nursing Student Math Aptitude and Success on a Medication Calculation Assessment": NE, 2009; 34 (2): 80-83
- [42] Newton Moorey "Use of aptitude to understand Bachelor of Science in nursing student attrition and readiness for the National Council Licensure Examination-Registered Nurse": PN, 2009; 25(5)
- [43] Adib-Hajbaghery M, Dianati M "A descriptive study to assess the undergraduate nursing students' compatibility with the nursing profession" :BMC,2005;5(25)
- [44] Beck C E Goodwin C L Hudson M J "Assessment of student affective behaviours in US medical technology programs": LM, 1994; 25(1): 27-31
- [45] Polit F D, Beck TC. Nursing Research. Published by Wolters Kluwer India. 2017. 10th edition.