

1. BACKGROUND

- Nearly 1 in 4 Canadians have hypertension, which often remains silent until complications arise (coronary heart disease, chronic kidney disease, stroke, and dementia) [1,2].
- Accurate blood pressure measurement (BPM) is a fundamental aspect of hypertension management and guidelines are available for health professionals [3]. BPM methods have been studied individually concerning either knowledge, perception and practice but not systematically and not in Canada.
- Content validation plays primary role in development of the questionnaire and provides evidence about validity of that questionnaire [5]. To reduce measurement errors, reliability and stability must be tested using a pretest [4].

2. OBJECTIVE

- To validate the BPM questionnaire for relevancy.
- To test for reliability and stability.
- To identify knowledge, perception and practice of nurses regarding OBPM method.

3. METHODOLOGY

Content validation:

- Four methodology and content experts validated the questionnaire.
- A two-steps process was used- *item validation for relevancy and question validation for clarity and simplicity*.
- Items were validated using *a four-point scale*, and content validity index (CVI) was calculated to select the relevant items (Lynn,1986). Items with *a score of 0.75* and above were selected to formulate the questions.
- For question validation, an online evaluation using the BIQ software was performed. Experts evaluated each question and commented for clarity and simplicity.
- Questionnaire was validated in English and French language.

Pretesting:

- One group pretest and posttest design was used and the interval between tests was one week.
- Questions - 5 -Knowledge , 4-Perception , 4-Practice.
- Inclusion criteria-** student nurses who are certified to practice as nurse and are pursuing bachelor's degree at UQTR.
- Electronic questionnaire using BIQ software.
- Language: French.

4. RESULTS

Objective 1: To validate the BPM questionnaire for relevancy.

- Majority items were considered relevant and acceptable (Table 1).
- All the experts showed perfect agreement for clarity and simplicity of each question and answer.

Table 1. Results for items validation using content validity index.

BPM methods	Knowledge		Perception		Practice	
	Number of items	CVI	Number of items	CVI	Number of items	CVI
HBPM	8	0.81	10	0.92	10	0.85
ABPM	8	0.85	6	0.91	10	0.80
AOBP	5	0.95	5	0.80	7	0.75
OBPM	14	0.91	7	0.78	8	0.84

4. RESULTS

Objective 2: To test the reliability and stability.

- 3 nurses answered the pretest and posttest.
- There was no significant difference ($p=0.281$) in the scores for pretest ($M=2.76\pm0.17$) and posttest ($M= 2.60\pm0.08$) using a paired t-test for comparison.

Objective 3: To identify knowledge, perception and practice of nurses regarding OBPM method.

- Average time required to complete the questionnaire was 20 minutes.
- Median age was 30 years and 91% were women (Table 2).

Table 2. Characteristics of nurses (n=11)

Variables	n (%)
Age	
< 30 years	6 (54.5)
30-39 years	5 (45.5)
Sex	
Female	10 (91)
Decline to answer	1 (9)
Full-time years in primary care practice	
≤3 years	6 (54.5)
4-10 years	5 (45.5)
Received specific training on BPM	
Yes, theoretical only (articles, conferences)	3 (27)
Yes, theoretical and practical	4 (36)
Never received training	4 (36)

Figure 1 Mean knowledge and perception scores in percentage

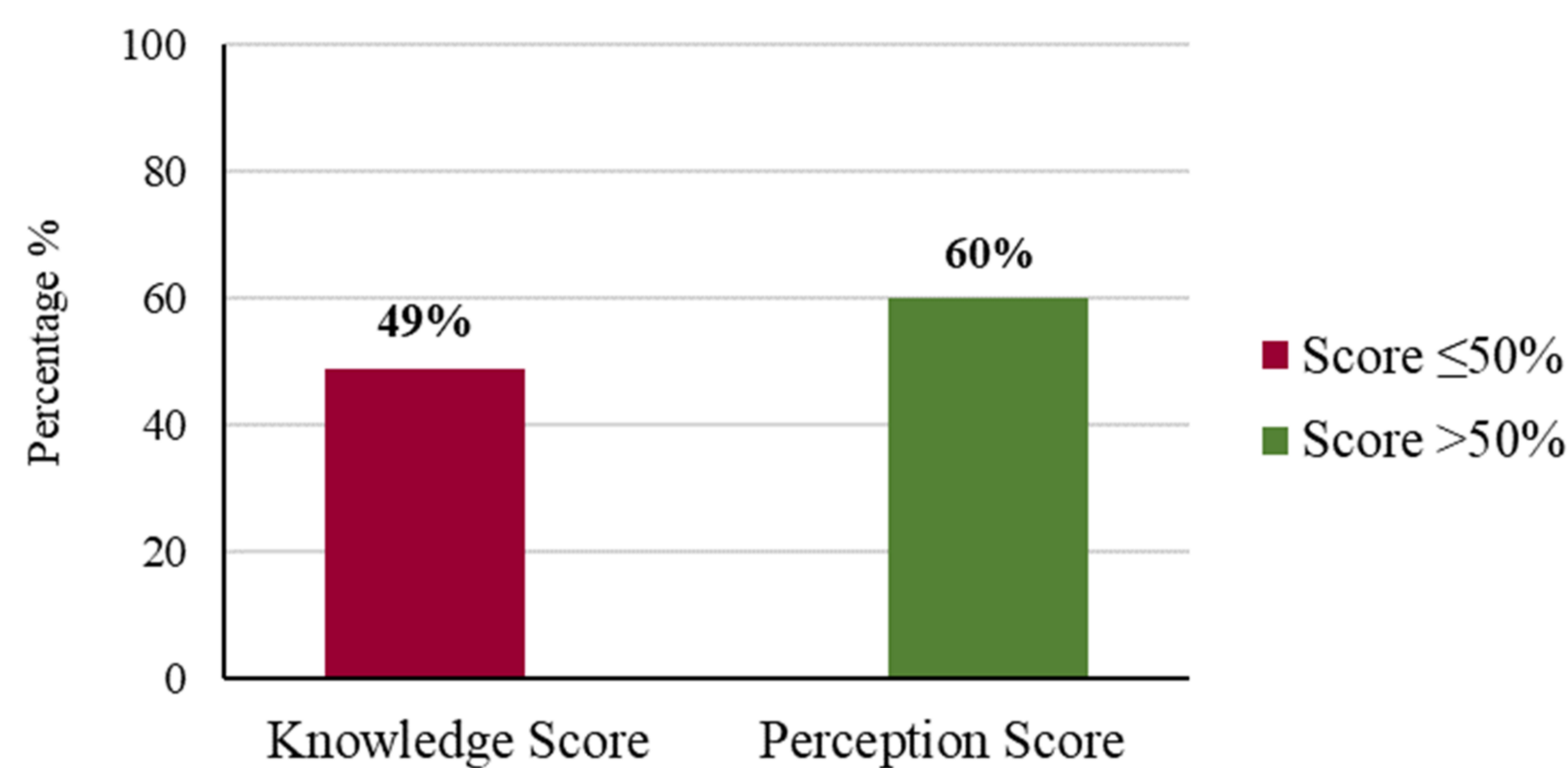


Figure 2 Routine method used for BPM

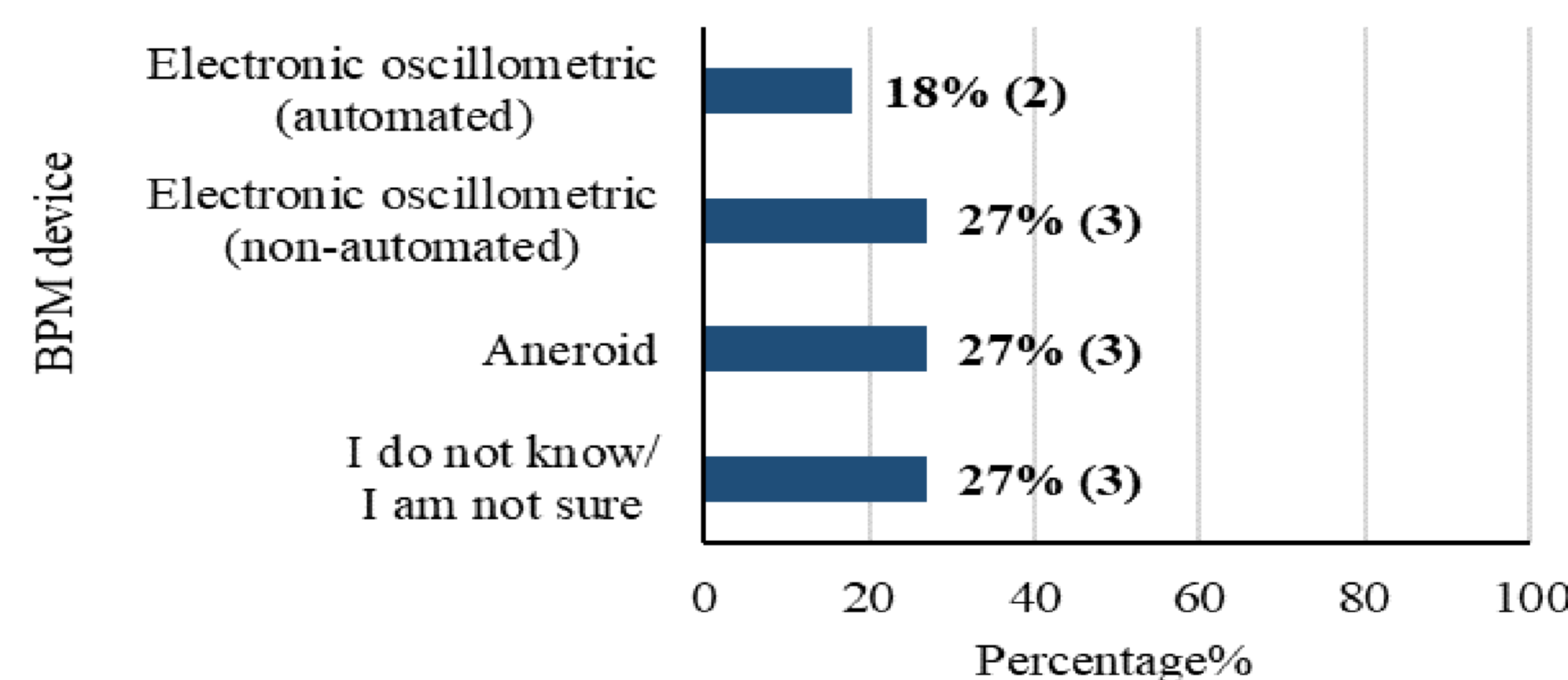
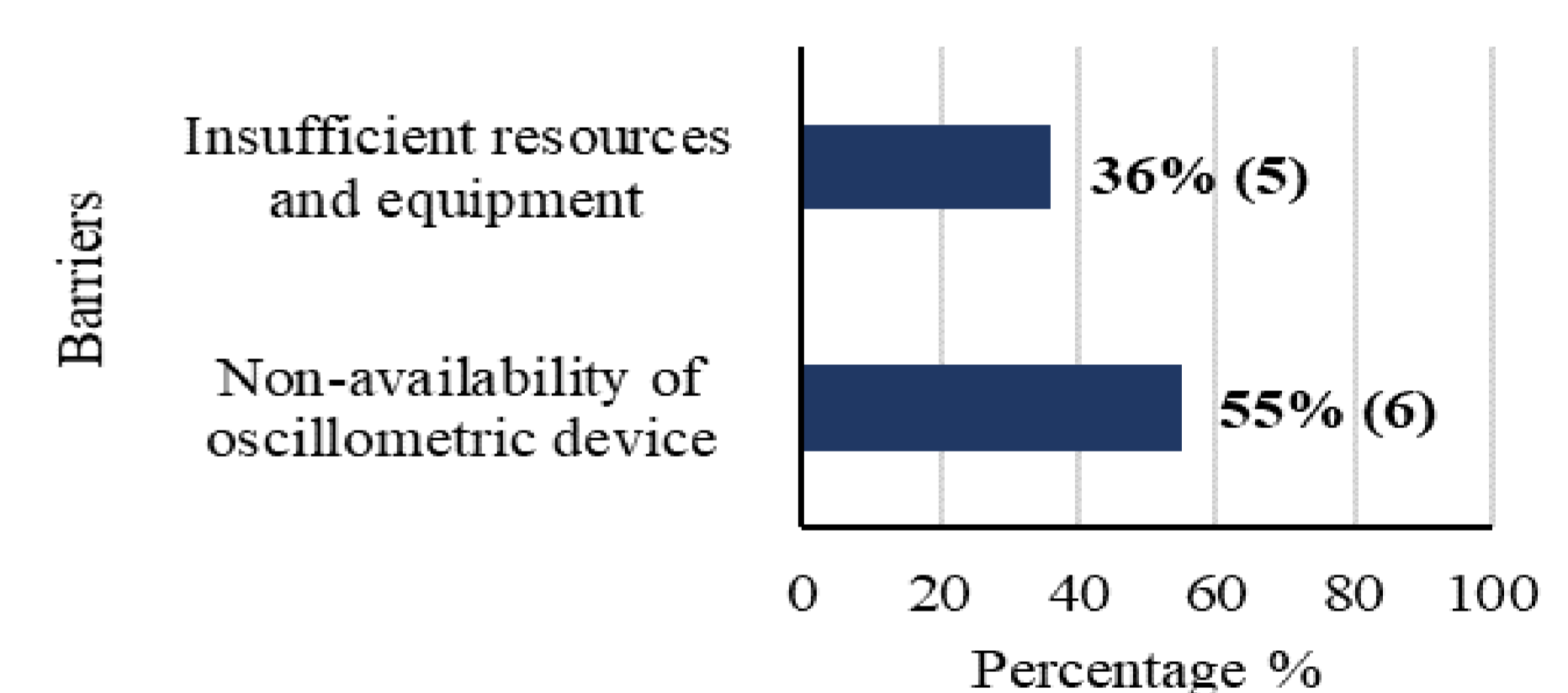


Figure 3 Barriers for BPM



5. DISCUSSION

- Results of content validation showed the questionnaire was relevant and representative of the target construct it was designed to measure.
- Results of pretest and posttests showed stability and reliability for the BPM questionnaire.
- A very small sample size for pretest and posttest was the limitation of this pilot study.
- The time required to complete the questionnaire was 20 minutes which was equivalent to our pre-estimated time.
- One of the potential reasons for this dropout could be due to the questionnaire length.
- Preliminary results
 - For knowledge, the mean score was below 50% which is insufficient. Previous literature also identified significant knowledge gaps amongst nurses regarding BPM techniques [5-7].
 - For perception, the mean score was above 50%. Nurses are in agreement about usefulness of OBPM method. Not much data is available about perception of nurses for OBPM method.
 - For practice, aneroid device are still being used as routine method to measure BP in office.

6. CONCLUSION

- Our analysis for content validation confirms that the BPM questionnaire is valid, relevant and achieves the standard level of content validity.
- The pretest results confirm that the BPM questionnaire is both reliable and stable, thus, making it appropriate to conduct the study on larger population.
- Our preliminary analysis showed that a clearer picture of knowledge, perception and practice of health professionals regarding BPM methods is needed.

7. REFERENCES

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