

## CONDUCT RESEARCH METHODS AND STATISTICS

UNIT CODE: MED/OS/NUD/CC/06/6/A

### UNIT DESCRIPTION

This unit specifies the competencies required to conduct research in nutrition pharmacy. It involves proposal writing: identifying a research problem upon literature review, formulating objectives, hypothesis and or research questions, conducting literature review, developing research methodology, conducting data collection, conducting data analysis and presentation and preparing research report. Statistical methods: types of data, descriptive statistics, inferential statistics, confidence intervals

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the <b>key outcomes</b> which make up <b>workplace function</b> .	These are <b>assessable</b> statements which specify the required level of performance for each of the elements.  <i><b>Bold and italicized terms are elaborated in the Range</b></i>
1. Identify terminologies in research methods and statistics	1. 1Terminologies in research methods and statistics are identified and described as per resource materials 1. 2 Importance of research, Types of research, Sources of data for research are identified and described as per resource materials 1. 3 Statistical methods are identified and described as per resource materials
2. Develop a research proposal	2.1 Identification of research problem/title is done as per literature search 2.2 Components of research proposal are identified and described as per resource materials and organizational guidelines
3. Conduct data collection	3.1 Data is collected as per the proposal developed and organizational guidelines
4. Conduct data analysis and presentation	4.1 Data is analyzed as per statistical method outlined in the proposal and organizational guidelines 4.2 Research findings are presented as per proposal and resource materials
5. Preparation of reports and dissemination	5.1 Scientific writing of research document is done as per the resource materials and organizational guidelines

	5.2 Power point presentations are done as per resource materials organizational guidelines, peer review of the research and publications are done as per journal guidelines
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## RANGE

This section provides work environments and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

Variables	Range
1. Sources of information	<ul style="list-style-type: none"> <li>• Primary</li> <li>• Secondary</li> </ul>
2. Types of research design	<ul style="list-style-type: none"> <li>• Descriptive</li> <li>• Experimental</li> <li>• Case study</li> <li>• Correlational</li> </ul>
3. Sampling techniques	<ul style="list-style-type: none"> <li>• Probability</li> <li>• Non-probability</li> </ul>
4. Data analysis techniques	<ul style="list-style-type: none"> <li>• Hypothesis test</li> </ul>
5. Sources of data	<ul style="list-style-type: none"> <li>• Primary</li> <li>• Secondary</li> </ul>
6. Methods of data collection	<ul style="list-style-type: none"> <li>• Questionnaire</li> <li>• Interviewing</li> <li>• Observation</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit of competency.

### Required Skills

The individual needs to demonstrate the following skills:

- Organizing skills
- Analytical skills
- Negotiation skills

- Interpersonal skills
- Communication skills
- Evaluation skills
- Problem solving
- Critical thinking
- Presentation skills

### Required Knowledge

The individual needs to demonstrate knowledge of:

- Research methods
- Technical report writing
- Communication skills
- Presentation skills

### EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge and range.

<p>1. Critical Aspects of Competency</p>	<p>Assessment requires evidence that the candidate:</p> <ol style="list-style-type: none"> <li>1. 1 Identified Research problem as per requirements of industry</li> <li>1. 2 Defined the scope of the study as per the research problem</li> <li>1. 3 Formulated a research title-based objective.</li> <li>1. 4 Identified Research objectives based on the title.</li> <li>1. 5 Established Research questions based on the objectives.</li> <li>1. 6 Identified Sources of information based on research objectives.</li> <li>1. 7 Reviewed and cited Relevant information is based on area of study</li> <li>1. 8 Identified the locality/site of the study based on the research objective.</li> <li>1. 9 Identified Materials, methods and procedures based on the research problem.</li> <li>1. 10 Prepared a schedule of the study based on timeframe of the study.</li> <li>1. 11 Prepared Research budget based on the scope of the</li> </ol>
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	<p>research</p> <p>1. 12 Identified and selected Types of research design are based on the research objectives.</p> <p>1. 13 Data analysis techniques are selected and established research objective and research design.</p> <p>1. 14 Determined Validity and reliability of research instruments is as per the research design.</p> <p>1. 15 Developed a research proposal</p> <p>1. 16 Determined research design</p> <p>1. 17 Determined Data Collection Methods and data analysis Procedures</p> <p>1. 18 Identified Data collection tools based on the research design</p> <p>1. 19 Collected Data is in line with research objectives.</p> <p>1. 20 Analyzed and interpreted Data is in line with research objectives.</p> <p>1. 21 Processed and presented Data as per relevant methodology</p> <p>1. 22 Identified Research report format as per relevant standards</p> <p>1. 23 Prepared Research report as per standards</p> <p>1. 24 Determined and presented Research findings as per work place procedures</p>
2. Resource implications	<p>The following resources must be provided:</p> <p>2.1 Functional bee facilities</p>
3. Methods of Assessment	<p>Competency may be assessed through:</p> <p>3.1 Written tests</p> <p>3.2 Third party reports</p> <p>3.3 Oral questioning</p> <p>3.4 Interview</p> <p>3.5 Observation</p>
4. Context of Assessment	<p>Assessment could be conducted:</p> <ul style="list-style-type: none"> <li>• On-the-job</li> <li>• Off-the-job</li> <li>• During industrial attachment</li> </ul>
5. Guidance information for assessment	<p>Holistic assessment with related units in the sector</p>