

**Supplemental file Table 1: Search Strategy Summary Across Databases**

Database	Search No.	Query/Terms Used	Filters / Limits	Results	Date
PubMed	#7 = #1 AND #2 AND #3	1. Nurses: "Nurses"[MeSH] OR "nursing staff"[MeSH] OR "nursing care"[MeSH] OR nurse[Title/Abstract] OR Nurses[Title/Abstract] OR nursing[Title/Abstract] 2. Genetic Services: "Genetic Services"[MeSH] OR "genetic counseling"[MeSH] OR "genomics"[MeSH] OR "genetic testing"[MeSH] OR genetic health[Title/Abstract] OR genomic test[Title/Abstract] OR family health history[Title/Abstract] OR genomic integration[Title/Abstract] 3. Barriers: barriers OR challenges OR obstacles OR difficulties OR facilitators OR enablers OR support OR promote OR facilitate	Filters: English, Humans, 2001/01/01 - 2024/12/31	347	03-Nov-2024
Cochrane Library	-	Search in Title, Abstract, Keywords: Terms related to Nurses, Genetic Services, and Barriers (similar to PubMed)	Filters: Trials and Reviews, English, 2001–2024	7	03-Nov-2024
Embase	#4 = #1 AND #2 AND #3	1. Nurses: 'nurse'/exp OR 'nursing staff'/exp OR 'nursing care'/exp OR genetics nurse OR nurses in genetic counseling OR nurses in genomics 2. Genetic Services: 'genetic counseling'/exp OR 'genetic testing'/exp OR genomic care OR genetic health services OR genetic risk assessment NOT reproductive, prenatal, pharmacogenetic, public health 3. Barriers: barrier OR challenge OR obstacle OR difficulty OR facilitator OR enabler OR support OR promote OR facilitate	NOT reproductive, prenatal, pharmacogenetic, public health	464	03-Nov-2024
CINAHL	S4 = S1 AND S2 AND S3	1. Genetic Services: (MH "Genetic Services") OR (MH "Genetic Counseling") OR (MH "Genomics") OR (MH "Genetic Testing") OR TX genetic health services OR genetic counseling OR genetic risk assessment NOT reproductive OR prenatal OR pharmacogenetic OR public health genetic testing 2. Nurses: (MH "Nurses") OR (MH "Nursing Staff") OR (MH "Nursing Care") OR TX genetics nurse OR nurses in genetic counseling 3. Barriers:	Expanders: Apply equivalent subjects Limiters: Publication Date 2001–2024	175	03-Nov-2024

		TX barriers OR challenges OR obstacles OR difficulties OR facilitators OR enablers OR support OR promote OR facilitate			
Web of Science	#5 = #1 AND #2 AND #3 (English only)	1. Nurses: TS=("nurse" OR "nurses" OR "nursing") 2. Genetic Services: TS=("genetic services" OR "genetic counseling" OR "genomics" OR "genetic testing" OR "genetic health" OR "genetic risk assessment") NOT ("reproductive" OR "prenatal" OR "pharmacogenetic" OR "public health") 3. Barriers: TS=("barriers" OR "challenges" OR "obstacles" OR "difficulties" OR "facilitators" OR "enablers" OR "support" OR "promote" OR "facilitate")	Language: English Core Collection: SCI, SSCI, AHCI, ESCI, etc. Date Range: 2003–2024	275	03-Nov-2024

**Supplemental file Table 2:** Scored quality assessments Mixed Methods Appraisal Tool (MMAT), version 2018 (1)

Supplementary material to manuscript Barriers and Facilitators Influencing Nurses in Genetic Service Provision: A Systematic Review

First author Year	Category of study design	Methodological quality criteria	Responses		
			Yes	No	Can't tell
Gaff 2001	1. Qualitative	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		1.1. Is the qualitative approach appropriate to answer the research question?	1		
		1.2. Are the qualitative data collection methods adequate to address the research question?	1		
		1.3. Are the findings adequately derived from the data?	1		
		1.4. Is the interpretation of results sufficiently substantiated by data?	1		
		1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	1		
<b>Total items scored</b>			5	0	0
Irwin 2004	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		

		4.4. Is the risk of nonresponse bias low?	X	1	
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	4	1	0
Bottorff 2005	1. Qualitative	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		1.1. Is the qualitative approach appropriate to answer the research question?	1		
		1.2. Are the qualitative data collection methods adequate to address the research question?	1		
		1.3. Are the findings adequately derived from the data?	1		
		1.4. Is the interpretation of results sufficiently substantiated by data?	1		
		1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	1		
		<b>Total items scored</b>	5	0	0
Calzone 2012	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	X	1	
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	4	1	
Godino 2013	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	X	1	
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	4	1	0
Calzone 2013	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	X		1
		4.4. Is the risk of nonresponse bias low?	1		
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	4	0	1
Kirk 2014	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		

		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	1		
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	5	0	0
Wright 2020	1. Qualitative	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		1.1. Is the qualitative approach appropriate to answer the research question?	1		
		1.2. Are the qualitative data collection methods adequate to address the research question?	1		
		1.3. Are the findings adequately derived from the data?	1		
		1.4. Is the interpretation of results sufficiently substantiated by data?	1		
		1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	1		
		<b>Total items scored</b>	5	0	0
Liu 2021	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	X	1	
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	4	1	
Kocatepe 2022	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	1		
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	5		
Zhao 2022	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		
		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	1		
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
		<b>Total items scored</b>	5		
Alloubani 2023	4. Quantitative descriptive	S1: Are there clear research questions?	<input checked="" type="checkbox"/>		
		S2: Do the collected data allow to address the research question?	<input checked="" type="checkbox"/>		
		4.1. Is the sampling strategy relevant to address the research question?	1		

		4.2. Is the sample representative of the target population?	1		
		4.3. Are the measurements appropriate?	1		
		4.4. Is the risk of nonresponse bias low?	1		
		4.5. Is the statistical analysis appropriate to answer the research question?	1		
<b>Total items scored</b>			<b>5</b>		

Abbreviation: S1=screening question 1, S2=screening question 2