

# Supplementary material

Quality Assessment based on Mixed Methods Appraisal Tool (MMAT), version 2018.

Category of study designs	Methodological quality criteria			
		Yes	No	Articles
Screening questions (for all types)	S1. Are there clear research questions?	x <sup>p</sup>		<sup>a</sup> Able et.al. (2015),
	S2. Do the collected data allow to address the research questions?	x <sup>p</sup>		<sup>b</sup> Asaro-Saddler & Bak (2012) <sup>c</sup> Bertuccio et.al (2019), <sup>d</sup> Bisika et.al. (2017). <sup>e</sup> Finlay et al. (2022), <sup>f</sup> Ho et al. (2018), <sup>g</sup> Johnson et al. (2021), <sup>h</sup> Kucharczyk et al. (2015), <sup>i</sup> Macdonald et al. (2021), <sup>j</sup> Mintz et al. (2021), <sup>k</sup> Probst, & Walker (2017), <sup>l</sup> Sam et al. (2021), <sup>m</sup> Strieker et al. (2012), <sup>n</sup> Tekin-Iftar et al. (2017), <sup>o</sup> Williams et al. (2021)  <sup>p</sup> All included articles
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question?	x <sup>a, h, j, o, i</sup>		<sup>a</sup> Able et.al. (2015),
	1.2. Are the qualitative data collection methods adequate to address the research question?	x <sup>a, h, j, o, i</sup>		<sup>b</sup> Kucharczyk et al. (2015), <sup>j</sup> Mintz et al. (2021), <sup>o</sup> Williams et al. (2021)
	1.3. Are the findings adequately derived from the data?	x <sup>a, h, o, i</sup>	x <sup>j</sup>	<sup>i</sup> Macdonald et al. (2021),
	1.4. Is the interpretation of results sufficiently substantiated by data?	x <sup>a, h, o, i</sup>	x <sup>j</sup>	
	1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?	x <sup>a, h, o, i</sup>	x <sup>j</sup>	
2. Quantitative randomized	2.1. Is randomization appropriately performed?	x <sup>l</sup>	x <sup>g</sup>	<sup>g</sup> Johnson et al. (2021), <sup>l</sup> Sam et al. (2021),
	2.2. Are the groups comparable at baseline?	x <sup>l</sup>	x <sup>g</sup>	

controlled trials	2.3. Are there complete outcome data?	X <sup>l</sup>	X <sup>g</sup>	
	2.4. Are outcome assessors blinded to the intervention provided?		X <sup>g, l</sup>	
	2.5 Did the participants adhere to the assigned intervention?	X <sup>g, l</sup>		
3. Quantitative non-randomized	3.1. Are the participants representative of the target population?	X <sup>c,n</sup>	X <sup>k</sup>	<sup>c</sup> Bertuccio et.al (2019) <sup>k</sup> Probst, & Walker (2017) <sup>n</sup> Tekin-Iftar et al. (2017),
	3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)?	X <sup>c,k,n</sup>		
	3.3. Are there complete outcome data?	X <sup>c, k,n</sup>		
	3.4. Are the confounders accounted for in the design and analysis?	X <sup>c,n</sup>	X <sup>k</sup>	
	3.5. During the study period, is the intervention administered (or exposure occurred) as intended?	X <sup>c, k,n</sup>		
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the research question?	X <sup>b,d,e,f,m</sup>		<sup>b</sup> Asaro-Saddler & Bak (2012) <sup>d</sup> Bitsika et.al. (2017), <sup>e</sup> Finlay et al. (2022), <sup>f</sup> Ho et al. (2018), <sup>m</sup> Stricker et al. (2012),
	4.2. Is the sample representative of the target population?	X <sup>b,d,e,f,m</sup>		
	4.3. Are the measurements appropriate?	X <sup>b,d,e,f,m</sup>		
	4.4. Is the risk of nonresponse bias low?	X <sup>b,d,e,f</sup>	X <sup>m</sup>	
	4.5. Is the statistical analysis appropriate to answer the research question?	X <sup>b,d ,e,m</sup>	X <sup>f</sup>	
5. Mixed methods	5.1. Is there an adequate rationale for using a mixed methods design to address the research question?			
	5.2. Are the different components of the study effectively integrated to answer the research question?			
	5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted?			
	5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?			
	5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?			