## PEER REVIEW HISTORY

BMJ Paediatrics Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

# **ARTICLE DETAILS**

TITLE (PROVISIONAL)	Anxiety and care experiences in adolescents with chronic health conditions: an international, longitudinal study across the transfer of care
AUTHORS	Alanen, Anna; Kallio, Mira; Culnane, Evelyn; Koivisto, Mari; Pasanen, Miko; Salanterä, Sanna; Sawyer, Susan; Kosola, Silja

#### **VERSION 1 - REVIEW**

REVIEWER NAME	Andrés Felipe Agudelo Hernández
REVIEWER AFFILIATION	Universidad de Manizales Facultad de Ciencias de la Salud
REVIEWER CONFLICT OF	
INTEREST	
DATE REVIEW RETURNED	10-Jul-2024

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GENERAL COMMENTS	Thank you for allowing me to review the manuscript "Anxiety and care experiences in adolescents with chronic health conditions: an international, longitudinal study across the transfer of care". Although it addresses interesting topics, it is important to strengthen some aspects of the manuscript.
	The introduction is nonspecific. Although it addresses anxiety and quality of life, it does not delve into aspects such as the transition to other clinical care services, adolescents' perceptions of hospitalization, the functioning of health services themselves, and the impact of chronic diseases on the perception of hospitalization processes, especially in adolescence.
	Aspects of the main study should be augmented to better situate the methods and findings. It is also important to describe the contexts, the particularities of each country in relation to health services. This will allow us to describe in the discussion what it means to carry out this study in several countries and compare the results based on the contexts. It is recommended to specify the instruments to determine the
	impact of the condition. Asking about the status during the last week could lead to bias when dealing with chronic diseases. There are no difficulties in the statistical analyses, although not specifying the variables well in the introduction and in the objective makes it difficult to understand what the authors were looking for with the linear regression.
	It is not clear to me if in these countries adolescents can sign a consent form without being accompanied by their guardians. This is not clear from the study. Furthermore, not differentiating diagnoses could lead to biases
	when evaluating anxiety and difficulty in the condition. An independent variable that allows overcoming this possible bias is not so clear, which leads to a significant risk of a type II error. It is not stated how these types of risks are handled in the study.

Additional aspects. It is recommended to specify and increase the keywords. Improve the narrative, as there are very long paragraphs
that make the transition to other ideas difficult.

REVIEWER NAME	Rachel Mary Hilliam
<b>REVIEWER AFFILIATION</b>	The Open University, Mathematics and Statistics
REVIEWER CONFLICT OF	
INTEREST	
DATE REVIEW RETURNED	11-Jul-2024

GENERAL COMMENTS	The subject of the paper is of interest to the readers of the journal. Both the study design and the data which has been included in the analysis have been carefully considered by the research team and this is well articulated in the paper, including the recognition that they two different care systems and Covid19 will have an affect on the weight that can be placed on the conclusions.
	The second paragraph in the statistical analysis section requires more explanation. This reads as though it is the groups when the anxiety and care experience scores are split that are used in your regression analysis, which I'm not sure is the case looking at Table 3. I suspect that you have put in the anxiety score (after admission?) as your response variable with the range being 20-80, but then categorise the predictor into your 3 groups based on the quartiles in the predictor (see my comments on the results of that section below). Or perhaps you are just using the groups for the predictor variables and putting the interactions into your regression model. Either way the explanation in paragraph 2 of the Statistical analysis section and the table of regression coefficients needs expanding and linking together.
	In the Changes in anxiety, care experience etc section - the t-test which refers to p<0.03 needs to be clarified. I'm assuming this is a two-sample t-test testing the different in the mean change between the two countries. I wonder if some readers may think that this is a t- test which might be looking to see where there is a change in anxiety pre and post (though with a little thought they may wonder why there is only one p-value).
	In the Association of care section I think something is missing from the first sentence. This section needs much more careful explanation, in particular with regards as to what each independent variable is for the regression model. For exmaple 'Condition impact high vs medium' how is this constructed as a factor in the regression model? Also is it the case that the dependent variable is categorical, ie the the groups for the levels of anxiety, or is the dependent variable actually the raw score which is then categorised - as these two types of regression are different.
	Table 4 is particularly confusing, both in the way it is presented and to a certain extent in the statistical analysis undertaken. This needs much more clarity for the reader, particularly if they wanted to repeat a similar analysis. I suggest this section is re-written.
	Overall the paper is well constructed and thought has been given to describing the data and the limitations of the conclusions, but more attention needs to be taken with both outlining exactly what statistical analysis has been carried out and the results obtained.

REVIEWER NAME	Ángela Gissette Caro Delgado
<b>REVIEWER AFFILIATION</b>	None disclosed
REVIEWER CONFLICT OF	
DATE REVIEW RETURNED	17-Jul-2024

GENERAL COMMENTS       Although the article confirms previous findings and contributes to the understanding of anxiety and caregiving experiences during the transition to adult care, it does not introduce substantially new or surprising discoveries in the field of research.         Although the study is conducted in two different countries, differences in healthcare systems and cultural contexts could affect the generalizability of the response. While this is common in studies of the subjectivity of the responses. While this is common in studies of this type, there could be a deeper exploration of the limitations and potential biases introduced by this method.         The data collection during the Covid-19 pandemic is a significant limitation that could have affected the results, particularly in terms of anxiety levels. The discussion mentions this, but it perhaps does not sufficiently explore how these effects could have been controlled or mitigated.         Although the discussion contextualizes the findings well, it could benefit from a more in-depth analysis of certain results. For instance, more detailed exploration of the reasons behind the differences between the two countries and how these factors can influence anxiety and caregiving experiences would be beneficial. The discussion could be enriched with a more detailed comparison with similar studies in other contexts or countries. This would help place the findings within a broader framework.         Although the findings within a broader framework.         Although the study provides new data, it is important to ensure that these findings genuinely offer a new perspective or significantly different data from what already exists. Emphasizing how this study advances knowledge beyond what is already known could be highlighted more.		
	GENERAL COMMENTS	transition to adult care, it does not introduce substantially new or surprising discoveries in the field of research. Although the study is conducted in two different countries, differences in healthcare systems and cultural contexts could affect the generalizability of the results. This issue is not thoroughly addressed. The use of self-reported questionnaires can introduce biases due to the subjectivity of the responses. While this is common in studies of this type, there could be a deeper exploration of the limitations and potential biases introduced by this method. The data collection during the Covid-19 pandemic is a significant limitation that could have affected the results, particularly in terms of anxiety levels. The discussion mentions this, but it perhaps does not sufficiently explore how these effects could have been controlled or mitigated. Although the discussion contextualizes the findings well, it could benefit from a more in-depth analysis of certain results. For instance, more detailed exploration of the reasons behind the differences between the two countries and how these factors can influence anxiety and caregiving experiences would be beneficial. The discussion could be enriched with a more detailed comparison with similar studies in other contexts or countries. This would help place the findings within a broader framework. Although the study provides new data, it is important to ensure that these findings genuinely offer a new perspective or significantly different data from what already exists. Emphasizing how this study advances knowledge beyond what is already known could be

## **VERSION 1 – AUTHOR RESPONSE**

## Reviewer: 1

Dr. Andrés Felipe Agudelo Hernández, Universidad de Manizales Facultad de Ciencias de la Salud **Comments to the Author** 

Thank you for allowing me to review the manuscript "Anxiety and care experiences in adolescents with chronic health conditions: an international, longitudinal study across the transfer of care". Although it addresses interesting topics, it is important to strengthen some aspects of the manuscript.

#### Thank you for your helpful and encouraging comments.

The introduction is nonspecific. Although it addresses anxiety and quality of life, it does not delve into aspects such as the transition to other clinical care services, adolescents' perceptions of hospitalization, the functioning of health services themselves, and the impact of chronic diseases on the perception of hospitalization processes, especially in adolescence.

Thank you for this comment. We have rewritten the introduction to improve clarity with closer focus on anxiety, care experience, the complexity of the transition process and the limitations in previous

research. For describing the functioning of health services we have added aspects on the transfer of care, the key factors that shape care experiences and also focusing on the health care needs that are special for adolescents with chronic health conditions.

We have focused on the adolescents perceptions on care experiences instead of hospitalization since the transition process mostly involves outpatient services and impacts both the health care needs of adolescents and their psychosocial development.

Aspects of the main study should be augmented to better situate the methods and findings. It is also important to describe the contexts, the particularities of each country in relation to health services. This will allow us to describe in the discussion what it means to carry out this study in several countries and compare the results based on the contexts.

Thank you very much for this helpful comment. We added a paragraph in methods on "Study sites" (page 5, from row 116):

We have also clarified in the discussion the importance of the cross-cultural study results and compared to previous research.. (Page 12 from row 293)" Previous research has emphasized that culturally responsive care for adolescents with chronic health conditions should be person-centered, and assess biological, psychological and sociocultural factors <sup>5</sup>. Despite the differences in culture and healthcare systems in Finland and Australia, the consistent results of this study add to the body of evidence that adolescents with chronic condition have largely common needs <sup>8,15,16,25</sup>." To our knowledge, cross-cultural research including a variety of chronic condition and the longitudinal data collection, is scarce

It is recommended to specify the instruments to determine the impact of the condition. Asking about the status during the last week could lead to bias when dealing with chronic diseases.

Thank you, we have addressed this as follows: It is true that one week is a short time when assessing chronic conditions. Longer assessment periods are, however, more likely to lead to recollection bias. We used a visual analog scale to assess the impact of the condition. The same method has been used previously. Among patients with inflammatory bowel disease, self-reported condition impact was associated with clinical disease activity (Puolanne et al. 2017 Rapid Fecal Calprotectin Test and Symptom Index in Monitoring the Disease activity in Colonic Inflammatory Bowel Disease. Dig Dis Sci. 2017;62(11):3123–30. <u>https://doi.org/10.1007/s10620-017-4770-0</u>. (Please see page 13 from row 303) "The responses to the surveys are self-evaluated and reflect a subjective view. In this study we asked about care related anxiety and it can be difficult to separate from anxiety related to other aspects of life. It is important to bring up the individuals own view of their life and their coping mechanisms as these aspects are decisive in terms of treatment results <sup>19,20</sup>. Previously, self-reported condition impact has been associated with clinical disease activity, which is why we used a visual analog scale to assess the impact of the condition <sup>21-24</sup>."

There are no difficulties in the statistical analyses, although not specifying the variables well in the introduction and in the objective makes it difficult to understand what the authors were looking for with the linear regression.

Thank you for your comment. We have rewritten the introduction to improve clarity with closer focus on anxiety, care experience, the complexity of the transition process and the limitations in previous research. And we elaborated on the objective of the study for clarification. (please see page 4, from row 89) "The objective of this study was to assess the changes in anxiety, care experiences, and condition impact at two time points (before and after transfer of care) and in two countries (Finland

and Australia) in adolescents with chronic health conditions. We also set out to evaluate how care experience, condition impact, age and country influence anxiety levels after the transfer of care."

We have rewritten the statistics chapter and added a clarification to the statistics (page 7, from row 160): "A linear regression model was used to study the associations of anxiety levels after transfer of care (dependent variable) with age, condition impact, care experiences and country. Self-reported condition impact and country were categorical independent variables, age and care experiences were included to the model as continuous independent variables. "

It is not clear to me if in these countries adolescents can sign a consent form without being accompanied by their guardians. This is not clear from the study.

Thank you for this important remark. We have clarified this as follows (page 5 from row 100): "Adolescents received both verbal and written information prior to providing written informed consent. In Finland, adolescents aged 15 or older may consent to participate in survey studies (which include no invasive interventions or treatments) autonomously without approval from their parent. For Australian adolescents aged under 18, the parents or carers also gave consent. (page 5, row 122): The detailed methods are reported in the study protocol <sup>18</sup>. "

Furthermore, not differentiating diagnoses could lead to biases when evaluating anxiety and difficulty in the condition. An independent variable that allows overcoming this possible bias is not so clear, which leads to a significant risk of a type II error. It is not stated how these types of risks are handled in the study.

Very good point, thank you for this insight, we revisited the statistical analyses, and for clarity present the data with medians s and IQR, instead of means. We now report analyses on anxiety levels according to clinical condition, country and gender. These analyses were done to mitigate reporting bias.(see below table 2, figure 2 and Supplementary table 2)

**Table 2**. Total median scores and change with comparison of countries and gender before and after transfer of care on anxiety, care experience and condition impact.

FIN= Finland, AUS = Australia.

m.= male, f.= female

Anxiety: total STAI scores between 20-80. Higher scores indicate higher anxiety.

Care experience: total scores between 8-24. Higher scores indicate more negative care experiences.

Condition impact: scores between 1-7. Lower scores indicate higher condition impact.

Before transfer anxiety total n = 486, After transfer anxiety total n = 323

Before transfer of care experience total n = 477, After transfer of care experience total n = 291

Before the transfer condition impact total n = 479, After transfer condition impact total n = 327

FIN before transfer, male n = 113-117, female n = 124-132. AUS before the transfer male n = 109-120 female n = 115-119

FIN after transfer, male n = 73-85, female n = 89-112,. AUS after transfer, male n= 57-58, female 69-70

OTAL Before ransfer	TOTAL After transfer	TOTAL		FIN	FIN	AUS	AUS
	After transfer						
	of care median	Change, median (IQR)		Before transfer of care	After transfer of care	Before transfer of care median	After transfer of care
of care nedian	(IQR)			median (IQR)	median (IQR)	(IQR)	median (IQR)
IQR)							
			m.	30.0 (26.7, 40.0)	30.0 (23.3, 36.7)	33.3 (26.7, 46.7)	33.3 (23.3, 46.7)
33.3 (26.7, 76.7)	33.3 (26.7, 80.0)	0.0 (-6.7, 6,7)		*	**	*	*
			f.	36.7 (30.0, 43.3)	33.3 (26.7, 40.0)	40.0 (30.0, 50.0)	43.3 (30.0, 53.3)
				9.0 (8.0,	9.0 (8.0,	9.0 ( 9.0,	9.0 ( 8.0,
9.0 (8.0, 11.0)	9.0 (8.0, 11.0)	0.0 (-1.0, 1.0)	m.	11.0)	11.0)	10.0)	11,0)
·			f.	10.0 (9.0,11.0)	9.0 (8.0, 11.0)	10.0 (8.0, 11.0)	10.0 (8.0, 12.0)
		0.0 (-1.0,	m.	6.0 ( 4.0, 7.0)	6.0 (4.0, 7.0)	6.0 (4.0, 7.0)	6.0 (4.0, 7.0)
6.0 (4.0, 7.0)	6.0 (4.0, 7.0)	1.0)	f.	6.0 ( 4.0, 7.0)	5.0 (4.0, 6.0)	5.0 (3.0, 7.0)	5.0 (3.0, 7.0)
	QR) 33.3 (26.7, 76.7)	anedian         QR)         33.3 (26.7, 33.3 (26.7, 76.7) 80.0)         9.0 (8.0, 9.0 (8.0, 11.0)	QR)         33.3 (26.7, 33.3 (26.7, 0.0 (-6.7, 76.7) 80.0)         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0)         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0)         9.0 (8.0, 7.0)         6.0 (4.0, 7.0)         0.0 (-1.0, 10.0)	QR)       m.         33.3 (26.7, 33.3 (26.7, 0.0 (-6.7, 6.7) 76.7)       m. $9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 1.0))$ f. $9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 1.0))$ m. $6.0 (4.0, 7.0)$ $6.0 (4.0, 7.0)$ $0.0 (-1.0, 1.0)$ m.       m.	nedian       (IQR)         QR)       (IQR)         33.3 (26.7, 33.3 (26.7, 80.0)       0.0 (-6.7, 6.7)         m. $30.0 (26.7, 40.0)$ x       36.7 (30.0, 43.3)         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0))       m.         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0))       m.         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0))       f.         9.0 (8.0, 7.0)       0.0 (-1.0, 1.0)         f.       10.0 (9.0, 11.0)         f.       10.0 (9.0, 11.0)         f.       6.0 (4.0, 7.0)         6.0 (4.0, 7.0)       0.0 (-1.0, 1.0)         f.       6.0 (4.0, 7.0)	nedian       (IQR)       (IQR)       (IQR)         QR) $(IQR)$ (IQR)       (IQR)         33.3 (26.7, 33.3 (26.7, 80.0) $0.0$ (-6.7, 6,7)       m. $30.0$ (26.7, 30.0 (23.3, 40.0) $36.7$ $30.0$ $36.7$ $*$ $**$ $f.$ $36.7$ (30.0, 33.3 (26.7, 43.3) $40.0$ ) $36.7$ $9.0$ (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0) $f.$ $36.7$ (30.0, 33.3 (26.7, 43.3) $40.0$ ) $9.0$ (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0) $f.$ $9.0$ (8.0, 9.0 (8.0, 11.0) $9.0$ (8.0, 11.0) $9.0$ (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0) $f.$ $9.0$ (8.0, 9.0 (8.0, 9.0 (8.0, 9.0) $11.0$ ) $5.0$ (4.0, 7.0) $6.0$ (4.0, 7.0) $0.0$ (-1.0, 10.0) $f.$ $6.0$ (4.0, 6.0 (4.0, 7.0) $5.0$ (4.0, 7.0) $6.0$ (4.0, 7.0) $0.0$ (-1.0, 10.0) $f.$ $6.0$ (4.0, 5.0 (4.0, 7.0)	hedian       (IQR)       (IQR)       (IQR)         QR)       (IQR)       (IQR)       (IQR)         33.3 (26.7, 33.3 (26.7, 80.0)       0.0 (-6.7, 6.7)       m. $30.0 (26.7, 30.0 (23.3, 36.7))$ $33.3 (26.7, 46.7)$ 33.3 (26.7, 76.7)       33.3 (26.7, 80.0)       0.0 (-6.7, 6.7)       m. $36.7 (30.0, 33.3 (26.7, 40.0 (30.0, 46.7))$ 9.0 (8.0, 9.0 (8.0, 9.0 (-1.0, 11.0)       m. $36.7 (30.0, 33.3 (26.7, 40.0 (30.0, 43.3))$ $90.0 (8.0, 9.0 (8.0, 9.0 (9.0, 43.3))$ 9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 11.0))       m. $11.0$ $9.0 (8.0, 9.0 (8.0, 9.0 (9.0, 11.0))$ $9.0 (8.0, 9.0 (8.0, 10.0 (8.0, (9.0, 11.0))$ 9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 1.0))       f. $10.0 9.0 (8.0, 10.0 (8.0, (9.0, 11.0))$ $11.0$ )         9.0 (8.0, 9.0 (8.0, 0.0 (-1.0, 1.0))       f. $10.0 (8.0, (9.0, 11.0)$ $11.0$ ) $11.0$ ) $11.0$ ) $50.0 (4.0, 7.0)$ $6.0 (4.0, 7.0)$ $0.0 (-1.0, 1.0)$ m. $6.0 (4.0, 6.0 (4.0, 7.0)$ $6.0 (4.0, 7.0)$ $6.0 (4.0, 7.0)$ $6.0 (4.0, 7.0)$ $6.0 (4.0, 5.0 (4.0, 5.0 (3.0, 7.0))$ $6.0 (4.0, 5.0 (4.0, 5.0 (3.0, 7.0))$

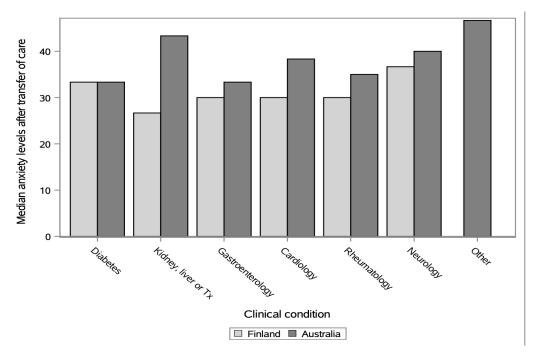


Figure 2. Levels of anxiety by clinical condition and country, after transfer of care

FINLAND	n	Anxiety, median (IQR)	AUSTRALIA	n	Anxiety, median ( IQF
Diabetes	75	33.3 (26.7 to 43.3)	Diabetes	23	33.3 (23.3 to 46.7
Kidney, liver, Tx	9	26.7 (20.0 to 33.3)	Kidney ,liver, Tx	13	43.3 (23.3 to 50.0
Gastroenterology	35	30.0 (30.0 to 40.0)	Gastroenterology	19	33.3 (20.0 to 53.3
Cardiology	16	30.0 (25.0 to 35,0)	Cardiology	10	38.3 (26.7 to 53.3
Rheumatology	49	30.0 (26.7 to 36.7)	Rheumatology	2	35.5 (30.0 to 40.0
Neurology	13	36.7 (30.0 to 43.3)	Neurology	33	40.0 (30.0 to 56.7
Other	0	0 (0.0 to 0.0)	Other	26	46.7 (30.0 to 50.0
			l	l	

Supplementary table 2. Median anxiety levels by clinical condition and country after transfer of care

Additional aspects. It is recommended to specify and increase the keywords. Improve the narrative, as there are very long paragraphs that make the transition to other ideas difficult.

Thank you for this comment, we have increased the keywords, revised and clarified the text and shortened the long paragraphs.

### Reviewer: 2 Dr. Rachel Mary Hilliam, The Open University Comments to the Author

The subject of the paper is of interest to the readers of the journal. Both the study design and the data which has been included in the analysis have been carefully considered by the research team and this is well articulated in the paper, including the recognition that they two different care systems and Covid19 will have an affect on the weight that can be placed on the conclusions.

#### Thank you for your encouragement.

The second paragraph in the statistical analysis section requires more explanation. This reads as though it is the groups when the anxiety and care experience scores are split that are used in your regression analysis, which I'm not sure is the case looking at Table 3. I suspect that you have put in the anxiety score (after admission?) as your response variable with the range being 20-80, but then categorise the predictor into your 3 groups based on the quartiles in the predictor (see my comments on the results of that section below). Or perhaps you are just using the groups for the predictor variables and putting the interactions into your regression model. Either way the explanation in paragraph 2 of the Statistical analysis section and the table of regression coefficients needs expanding and linking together.

Thank you for this insight, we have revisited the statistical analyses and rewritten the paragraph to clarify the categorization, quartiles and the variables for the regression model (please see page 7, from row 149).

In the Changes in anxiety, care experience etc section - the t-test which refers to p<0.03 needs to be clarified. I'm assuming this is a two-sample t-test testing the different in the mean change between the two countries. I wonder if some readers may think that this is a t-test which might be looking to see where there is a change in anxiety pre and post (though with a little thought they may wonder why there is only one p-value).

Thank you for pointing this out, we took out this section and have now changed the reporting of the analyses. We have revisited the statistical analyses to mitigate reporting bias, and for clarity now present the data with medians and IQR, instead of means and SD. We now report analyses on anxiety levels according to clinical condition, country and gender. Please see:

**Table 2**. Total median scores and change with comparison of countries and gender before and after transfer of care on anxiety, care experience and condition impact.

Figure 2. Levels of anxiety by clinical condition and country, after transfer of care See also

Supplementary table 2. Median anxiety levels by clinical condition and country after transfer of care

We now present the differences in anxiety levels by countries as follow (from page 10 row 217): Australian participants reported higher anxiety levels after transfer of care than Finnish participants (FIN median 33.3 vs AUS median 40.0 p = .001), as shown in figure 1.

In the Association of care ... section I think something is missing from the first sentence.

Thank you for this remark, the sentence has been removed.

This section needs much more careful explanation, in particular with regards as to what each independent variable is for the regression model. For example 'Condition impact high vs medium' how is this constructed as a factor in the regression model? Also is it the case that the dependent variable is categorical, ie the the groups for the levels of anxiety, or is the dependent variable actually the raw score which is then categorised - as these two types of regression are different.

Thank you for this insightful comment. The dependent variable in the linear regression model is continuous and the paragraph has been modified for clarification as follows (page 7, from row 160): "A linear regression model was used to study the association of anxiety levels after transfer of care (dependent variable) and age, condition impact, care experiences and country. Self-reported condition impact and country were categorical independent variables, age and care experiences were included to the model as continuous independent variables."

Table 4 is particularly confusing, both in the way it is presented and to a certain extent in the statistical analysis undertaken. This needs much more clarity for the reader, particularly if they wanted to repeat a similar analysis. I suggest this section is re-written.

Thank you for pointing this out. Under statistical analyses we have clarified how the data was grouped and how the statistical analysis was undertaken. We wanted to compare the highest and lowest quartiles given that adolescents with higher anxiety levels and more negative care experiences are anticipated to be in greatest need of support. The clarifications are found at the statistical analyses section (please see page 7, from row 165).

Table 4 has been revised and simplified.(page 11 from row 239):" We compared the lowest and highest quartiles on levels of anxiety and care experience after transfer of care. Participants who reported negative care experiences reported higher anxiety levels than participants who reported positive care experiences (40.0 (IQR 30.0-50.0) vs 33.3 (IQR 23.3 - 41.6), p < .001).(Table 4.)

	Low anxiety n = 95	High anxiety n = 67		Positive care experience n = 111	Negative care experience n = 70
	median (IQR)	median (IQR)		median (IQR)	median (IQR)
Care experienc e n = 80	9.0 (8.0 to 10.0)	9.0 (8.0 to 13.0)	Anxiety n=104	33.3 (23.3 to 41.6)	40.0 (30.0t o 50.0)
р	= .05*		р	> .001**	

**Table 4** Comparisons of care experiences in the lowest and highest quartiles of anxiety, and anxiety

 levels in the lowest and highest quartiles of care experiences after transfer of care

Low anxiety 20-27 pts, High anxiety 48-80 pts,

Positive care experience 8 pts, negative care experience 12.-24 pts.

\*Kruskall- Wallis , \*\* Two sampled T-test,

Overall the paper is well constructed and thought has been given to describing the data and the limitations of the conclusions, but more attention needs to be taken with both outlining exactly what statistical analysis has been carried out and the results obtained.

Thank you again for your encouragement and for sharing your insight.

#### Reviewer: 3

Ángela Gissette Caro Delgado

#### **Comments to the Author**

Although the article confirms previous findings and contributes to the understanding of anxiety and caregiving experiences during the transition to adult care, it does not introduce substantially new or surprising discoveries in the field of research.

Thank you very much for this comment, we have revised the text to clarify the value of the results of our international study. To our knowledge, cross-cultural research including a variety of chronic condition and the longitudinal data collection, is scarce. Therefore the largely positive findings at both study sites before and after transfer of care adds to the body of evidence on common needs for adolescents with chronic condition and presents knowledge that contributes to improve general guidelines on adolescent friendly care .

We have elaborated on this in the introduction (see page 4 row from 77) and we have added to the discussion a paragraph on previous research regarding culturally responsive care for adolescents, and the value of research regarding different healthcare systems and cultures. (please see page 12 from row 293, and I conclusions page 34 from row 316 to 321).

The use of self-reported questionnaires can introduce biases due to the subjectivity of the responses. While this is common in studies of this type, there could be a deeper exploration of the limitations and potential biases introduced by this method.

One week is a short time when assessing chronic conditions but longer assessment periods are, however, more likely to lead to recollection bias. The anxiety levels of the adolescents are self-reported as is the impact of each respective condition on the life of every individual. These measures are by definition subjective. We used a visual analog scale to assess the impact of the condition. The same method has been used previously, and among patients with inflammatory bowel disease, self-reported condition impact was associated with clinical disease activity (Puolanne et al. 2017 Rapid Fecal Calprotectin Test and Symptom Index in Monitoring the Disease activity in Colonic Inflammatory Bowel Disease. Dig Dis Sci. 2017;62(11):3123–30. <u>https://doi.org/10.1007/s10620-017-4770-0. We have also elaborated on the value of reporting on personal views of the adolescents, since every persons coping mechanisms are important to consider as they are decisive in terms of treatment results. (please see page 13 from row 317to 323).</u>

The data collection during the Covid-19 pandemic is a significant limitation that could have affected the results, particularly in terms of anxiety levels. The discussion mentions this, but it perhaps does not sufficiently explore how these effects could have been controlled or mitigated.

Thank you for this comment. We are well aware of the limitations that the pandemic added. The planning of the international "Bridge" study started in 2017, well before Covid 19, so we could not foresee the restrictions at the time. Further exploration of the effects of the pandemic would be purely speculative and could lead to reporting bias, as we did not include questions on the pandemic in the surveys.

Although the discussion contextualizes the findings well, it could benefit from a more in-depth analysis of certain results. For instance, more detailed exploration of the reasons behind the differences between the two countries and how these factors can influence anxiety and caregiving experiences would be beneficial. The discussion could be enriched with a more detailed comparison with similar studies in other contexts or countries. This would help place the findings within a broader framework.

Thank you for this comment. We added a paragraph in Methods "Study sites" to clarify the similarities and differences of the two study sites please see page 4 from row 116.

Through deeper analyses on levels of anxiety and gender, clinical condition and country after transfer of care we aim to enrich and deepen the understanding on the differences and similarities between the two countries. The results of the revised analyses are presented in **Table 2** "Total median scores and change with comparison of countries and gender before and after transfer of care on anxiety, care experience and condition impact". and **Figure 2**. "Anxiety levels and clinical condition by country after transfer of care", also supported by the Supplementary table 2. We have clarified the discussion with more tangible comparison with previous studies, (see page 11 from row 273 to 289).

Although the study provides new data, it is important to ensure that these findings genuinely offer a new perspective or significantly different data from what already exists. Emphasizing how this study advances knowledge beyond what is already known could be highlighted more.

Thank you for this very helpful suggestion. We have now emphasized the cross-cultural aspects of this study, as we found very few cross-cultural studies on transition. we elaborated on the anxitylevels by gender and country (please see page 13, from 310) Despite the differences in culture and healthcare systems in Finland and Australia, the consistent results of this study add to the body of evidence that adolescents with chronic condition have largely common needs <sup>8,15,16,25</sup>. We also found that the results on anxiety levels differing by sex is consistent with previous studies, but it is noteworthy that the anxiety levels differed by females and country after transfer of care ( please see page 12 from row 292).

We also emphasized how the results of this study contributes to knowledge around adolescenst friendly care, please see in conclusions (Page 14, row 335): The consistent finding across Finland and Australia that participants who reported higher condition impact and less positive care experiences also reported higher anxiety suggests opportunities for enhancing adolescent care. The findings highlight the common needs for adolescents with chronic health conditions across different cultures and contribute to knowledge for how to improve adolescent friendly care.

# VERSION 2 – REVIEW

REVIEWER NAME	Andrés Felipe Agudelo Hernández
<b>REVIEWER AFFILIATION</b>	Universidad de Manizales Facultad de Ciencias de la Salud
REVIEWER CONFLICT OF	
DATE REVIEW RETURNED	14-Oct-2024

GENERAL COMMENTS	Dear Editorial Board Dear Authors
	Again, thank you for allowing me to review the manuscript. I now have a version with all the points addressed. I just want to point out that it has very long paragraphs. Paragraphs of three ideas would make what you want to say more consistent. But that, I suppose, can be resolved in the final phase of publication. Congratulations to the authors.