



Mental health and quality of life among refugees from Syria after forced migration to Norway

Main findings from the REFUGE Study

Øivind Fjeld-Solberg, Alexander Nissen,
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The Norwegian Centre for Violence and Traumatic Stress Studies (NKVTS) was established on 17 November 2003. The company is owned by the Norwegian Research Centre AS (NORCE).

The tasks of the centre include research, development work, information and guidance on the following topics:

- Violence and abuse in close relationships
- Forced migration and health of refugees
- Disasters, terrorism and stress management

Our vision: a better life for those affected by violence and trauma.

The centre carries out projects financed by ministries and directorates, the Norwegian Research Council, voluntary organisations and others.

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Preface

As of today, an estimated 25 million refugees and asylum seekers have been forced to flee their homes globally. This unprecedented increase in refugees and asylum seekers is not an isolated crisis, but an ongoing reality that poses challenges to which public health systems and regulations of the receiving host countries now must adjust (www.who.int).

Refugees and asylum seekers come to Europe to escape insecurity, conflict, war, persecution and poverty. In the period between 2015 and 2017, when the population described in this report fled to Norway, this became especially clear. In 2015, over 1 million refugees and migrants entered the European Region (www.unhcr.org) and, according to a recent report by UNHCR, refugees and asylum seekers not only undertook more dangerous journeys to Europe in 2016 (<http://www.unhcr.org>) but also endured increased violence and abuse by border authorities. The Mediterranean journey to Italy proved particularly dangerous, with more deaths at sea recorded in 2016 than any previous year. In addition to this worrying trend, UNHCR received numerous reports of refugees and asylum seekers 'being kidnapped, held against their will, physically and sexually abused, tortured or extorted by smugglers and/or criminal gangs at several points along key routes'. Within this context the Syrian war has created one of the worst humanitarian crises of our time.

During the writing of this report, warring parties in the Syrian conflict continue fighting and human rights violations continue. Though the war in Syria has been deescalating, civilian casualties are still reported. Moreover, military operations have displaced millions of individuals throughout Syria and reports of detentions and ill-treatment are still reported as the war continues. Currently, more than 3.6 million Syrian refugees receive temporary protection in Turkey and approximately 2 million have fled to neighbouring countries Lebanon and Jordan ([UNHCR.org](http://www.unhcr.org)). A substantial number of refugees from Syria were also resettled in Norway during the period 2015-2018.

This report describes the main findings from the first wave of the REFUGE study, a nation-wide survey of mental health and quality of life among refugees from Syria resettled in Norway. It is well documented that exposure to traumatic events prior to or during flight can have detrimental effects on mental health, and previous research has e.g. estimated depression and posttraumatic stress disorder rates within these fleeing populations to be 15–20%.¹ The main aim of the REFUGE study was therefore to investigate how integration is affected by mental health in the years following resettlement. The study encompasses a longitudinal, three-wave questionnaire-based survey, a qualitative interview-based survey and data from Norwegian population-based registries. The goal is to incorporate these data sources in an internationally shared database, the REFUGE database, where collaborating researchers may access and use data from the study as well as deposit their own data from similar studies conducted within the EU.

In this first report, we present the main findings from the initial quantitative data collection wave in Norway. The REFUGE study is part of the Norwegian Centre for Violence and Traumatic Stress Studies' (NKVTS) research pillar 'Forced migration and refugee health' and was initiated by researchers at NKVTS in collaboration with the Norwegian Institute of Public Health and the Swedish Red Cross University College.

Several people were central in the development and execution of the study and deserves mentioning. First and foremost, we would like to thank the newly resettled refugees and asylum seekers who took part in the preparatory stages of the project, and the respondents who took the time to answer the questionnaire and share their experiences with us. We would also like to thank our partners at Ipsos who were responsible for administering the survey. Linn Sørensen Holst was the project manager, and her team executed the project and communicated with us in an exemplary manner. The present report also benefited from an expert review by Prof. Fredrik Saboonchi from the Swedish Red Cross University College, Marianne Opaas and Per Kristian Hilden from NKVTS.

Furthermore, we would like to thank the members of our user reference group for their valuable comments and suggestions along the way. The distributed

questionnaire also benefited from the constructive input of Fredrik Saboonchi, Marianne Opaas, Marianne Jacobsen, Siri Thoresen, Melanie Straiton and Lars Barstad. University of Oslo intern Ingeborg Eldegard also provided valuable content and edits to the final report. Finally, we would like to give special thanks to our trusted Arabic interpreter Ahmed Zawawi for his excellent work throughout the project period.

The study was carried out by Øivind Fjeld-Solberg, Alexander Nissen and Arnfinn J. Andersen.

NKVTS, September 4, 2020

Øivind Fjeld-Solberg
Project lead, The REFUGE Study

'Syria is the biggest humanitarian and refugee crisis of our time, a continuing cause of suffering for millions which should be garnering a groundswell of support around the world' .

Filippo Grandi, UNHCR High Commissioner

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Summary (English)

The REFUGE study was established in order to enhance current knowledge on mental health and quality of life among adult refugees from Syria resettled in Norway. The main aim of the study is to investigate how mental health may affect integration in the years following resettlement. The study is planned to encompass a longitudinal, three-wave questionnaire-based survey, a qualitative interview-based study and data from Norwegian population-based registries. The goal is to incorporate several of these data-sources in a new, internationally shared database, the REFUGE database. In this report, we present the main findings from the first wave of our quantitative data collection in Norway.

Procedure and participants

The REFUGE study is the first study in Norway to utilise a large, nation-wide random sample frame, encompassing adult refugees from Syria newly resettled in Norway. The initial data collection wave of the REFUGE study (REFUGE I) was launched in November 2018 and completed in September 2019. The questionnaire based data gathered here includes extensive sociodemographic information, measures of potentially traumatic experiences prior to, during and post flight (pre-, peri- and post-migratory stress), and measures of mental health and quality of life. Of the 9,990 sampled individuals, 8,752 were reached either by post or by telephone, and 902 responded (response rate = 10.3%). Among the 902 respondents, 64.5% were male and 35.5% were female. The largest age groups consisted of respondents age 30-39 (34.4%) and age 40-49 (25.5%). Of the 902 respondents, 52.5% arrived in Norway as asylum seekers, while 31.6% and 15.4% were quota/resettlement refugees and family reunification refugees, respectively.

Main findings

Overall, the respondents in the REFUGE-study reported relatively high exposure to potentially traumatic events pre-, peri- and post-flight. In line with previous research, we also identified a relatively high prevalence of mental health problems* compared to the general population in Norway.

In total, more than 40% of respondents reported having experienced five or more potentially traumatic events (PTEs) before their flight from Syria, with women in general experiencing fewer events compared to men. The most commonly reported PTEs were *war at close quarters* (96%) and *frightening situations where respondents felt their life was in danger* (88.5%). The most striking contrast between men and women were found in their reports of torture, with 34.6% of men reporting having experienced torture, compared to 18.4% of women.

Overall, the prevalence of PTSD was 34.7%, with slightly higher prevalences in men (36.0%), compared to women (32.3%). Still, this difference was not statistically significant lower in women. The overall prevalence of anxiety/depression was 35.5%, this time slightly higher in women (37.8%), compared to men (34.4%), but not statistically significant.

Possible associations between mental health problems and exposure to PTEs before or during respondents' flight to Norway were also identified. The prevalence of PTSD was higher for respondents who reported to have experienced five or more PTEs before or during their flight from Syria (51.7%), compared to respondents who had experienced less than five PTEs (19.6%). Furthermore, the prevalence of anxiety/depression was also higher for respondents who reported to have experienced five or more PTEs (50.6%), compared to respondents who had experienced less than five PTEs before or during their flight from Syria (22.7%).

Moreover, our findings also point to several possible associations between post-migratory stressors experienced after arriving in Norway and respondents' mental health problems. Post-migratory stress was measured using seven different stressor-items. The most common form of post-migratory stress experienced

* *The prevalence of PTSD, anxiety and depression is «symptom defined», in other words, estimated on the basis of recommended cut-off scores, self-reported symptoms and severity, not diagnostic interviews.*

‘often/very often’ by respondents was *feeling sad because I am not reunited with family members* (51.3% of the respondents), followed by experiencing *frustration because I am not able to make use of my competences in Norway* (43.7%). Least common was *being unable to buy necessities* (10.5%) and *feeling disrespected due to my national background* (5.1%).

Among respondents who reported ‘often/very often’ to have experienced *feeling sad because I am not reunited with family members*, the prevalence of PTSD was 43.4%, and the prevalence of anxiety/depression was 43.6%. Among respondents who reported ‘often/very often’ to have experienced *frustration because I am not able to make use of my competences in Norway*, the prevalence of PTSD was 51.7%, and the prevalence of anxiety/depression was 48.5%.

The post-migratory stressors that were strongest associated with mental health, were stressors linked to *economy* and a *feeling of disrespect*. Among respondents who reported ‘often/very often’ to have experienced *being unable to buy necessities*, the prevalence of PTSD was 67.4%, and the prevalence of anxiety/depression was 65.1%. Among respondents who reported ‘often/very often’ to have experienced *feeling disrespected due to my national background*, the prevalence of PTSD was 63.6%, and the prevalence of anxiety/depression was 59.5%.

Finally, 45.4% of respondents in the present study reported to have a good or very good quality of life, while 57.3% reported that they were satisfied or very satisfied with their health.

Conclusions

In sum, our findings suggest overall high levels of exposure to flight-related stress pre-, peri and post-flight, and relatively high levels of mental health problems among refugees from Syria resettled in Norway, compared to the general population. These findings are in line with what has been shown in previous, similar studies.

However, we encourage the use of caution when interpreting these results. The prevalences of mental health problems are based on self-reported, questionnaire-based data, not clinical, diagnostic interviews. Undoubtedly, our findings reveal that many refugees from Syria have experienced serious and burdensome events

both pre, peri- and post-flight, and suffer the consequences of these experiences. Still, it is important to be mindful of the fact that the prevalences of mental health problems reported, might be overestimated or caused by other, non-psychiatric conditions.

The findings in this report still reveal the need for interventions that can alleviate symptoms, improve quality of life, and prevent further mental health deterioration among refugees from Syria living in Norway. Furthermore, it is worth noting that several of the post-migratory stressors that are linked to mental health problems in this report, such as *'feeling disrespected due to my national background'* and *'being unable to buy necessities'*, can be related to the time period after resettlement in Norway. These stressors are linked to societal and socioeconomic structures in the Norwegian context that we, as a host country, can change and/or improve.

Summary (Arabic)

ملخص (بالعربية).

لقد كان الغرض من إجراء دراسة اللجوء REFUGE هو تعزيز المعرفة الحالية بالصحة النفسية و مدى جودة حياة اللاجئين البالغين القادمين من سوريا و المقيمين حالياً في النرويج. الهدف الرئيسي من هذه الدراسة هو البحث عن كيفية تأثير الصحة النفسية في الاندماج بعد مضي سنوات من الإقامة. وقد شملت هذه الدراسة، وفق الخطة الموضوعية، بحثاً يقوم على استمارة أسئلة طويلة، وبحثاً نوعياً يقوم على إجراء المقابلات، و جمع بيانات من سجلات متعددة في النرويج. والهدف هو تجميع هذه المصادر المتنوعة للبيانات في قاعدة بيانات دولية مشتركة جديدة تُسمى قاعدة بيانات اللجوء (REFUGE). و سنقوم من خلال هذا التقرير بتقديم النتائج الرئيسية المستخلصة من أول مجموعة للبيانات النوعية في النرويج.

الإجراءات والمشاركين.

تعتبر دراسة اللجوء الدراسة الأولى من نوعها التي تستهدف عينة عشوائية كبيرة و شاملة من كل أنحاء البلاد للاجئين البالغين القادمين من سورية و المقيمين حديثاً في النرويج. جرى إطلاق أول جزء من هذه الدراسة المسماة بدراسة اللجوء (REFUGE-1) في نوفمبر 2018 و استكملت في سبتمبر 2019. و تشكل البيانات التي تم جمعها معلومات تكملية عن المتغيرات الاجتماعية السكانية، و التجارب المؤلمة التي تعرض لها المشاركون في هذه الدراسة قبل و أثناء و بعد النزوح (الضغوط النفسية ما قبل و أثناء و بعد الهجرة) و الصحة النفسية و جودة الحياة. من بين 9990 شخص تم انتقاءهم بشكل عشوائي للمشاركة في هذه الدراسة، تم الوصول إلى 8752 منهم، إما عن طريق البريد أو التلّفون. 902 منهم اختار الإشتراك معنا في هذه الدراسة و أجابوا على الاستبيان (10,3%) ، و كانت نسبة الرجال 64.5% و نسبة النساء 35.5%. كانت أكبر الفئات العمرية بين المشاركين هم الذين تتراوح أعمارهم بين 30-39 سنة (34.4%) و 40-49 سنة (25.5%). و من بين 902 مشترك جاء 52.5% إلى النرويج كطالبي لجوء، بينما جاء 31.6% و 15.4% عن طريق الأمم المتحدة، و عن طريق جمع الشمل الأسري.

النتائج الرئيسية.

تُظهر النتائج المستخلصة و المقدّمة في هذا التقرير إلى تعرض المشتركين بشكل مرتفع نسبياً إلى صدمات نفسية و أحداث مؤلمة قبل و أثناء و بعد النزوح. و بشكل مشابه للنتائج المستخلصة من دراسات سابقة و جدنا أيضاً وجود نسبة مرتفعة من مشاكل في الصحة النفسية* مقارنة بهذا النوع من المشاكل الموجودة في النرويج. وفي المجمال، أفاد أكثر من 40% من المشتركين بأنهم قد تعرضوا لخمس تجارب مؤلمة محتملة أو أكثر (PTEs) قبل النزوح من سوريا. النساء كانوا أقل تعرضاً لمثل هذه التجارب من الرجال. كانت أكثر التجارب التي تم الإبلاغ عنها هي معاشية ظروف الحرب عن قرب (96%) و المواقف المرعبة التي يرى المشتركين أنهم تعرضوا فيها لخطر الموت (88.5%). الفرق الأكبر بين الرجال و النساء وُجد في تجاربهم مع التعذيب، حيث أفاد 34.6% من الرجال بأنهم تعرضوا للتعذيب، مقابل 18.4% من النساء. عموماً، كان ظهور الاضطراب النفسي ما بعد الصدمة مع وجود أعراض محددة 34,7% مرتفع قليلاً لدى الرجال (36%) منه لدى النساء (32,3%). إلا أن هذا الاختلاف لم يكن بشكل ملحوظ إحصائياً لدى النساء. كان معدل الخوف/الاكتئاب مع وجود أعراض محددة 35,5%، هذه المرة مرتفع قليلاً لدى النساء منه لدى الرجال 34,4% لكن دون وجود اختلاف ملحوظ. كان أيضاً من الواضح وجود ترابط محتمل بين الصحة النفسية و التعرض لتجارب مؤلمة محتملة (PTEs) قبل و أثناء نزوح المشتركين إلى النرويج. كان معدل ظهور الاضطراب النفسي ما بعد الصدمة مع وجود أعراض محددة أعلى لدى المشتركين الذين أفادوا بأنهم تعرضوا لخمس تجارب مؤلمة أو أكثر قبل أو أثناء أو بعد النزوح من سوريا (51.7%)، مقارنة بالمشتركين الذين تعرضوا لأقل من خمس تجارب مؤلمة (19.6%) علاوة على ذلك، كان معدل حدوث القلق/الاكتئاب المحدد الأعراض أيضاً أعلى بالنسبة للمشاركين الذين أفادوا بأنهم تعرضوا لخمس تجارب مؤلمة أو أكثر (50.6%)، مقارنة بالمشتركين الذين تعرضوا لأقل من خمس تجارب مؤلمة قبل و أثناء و بعد نزوحهم من سوريا (22.7%). كما تظهر نتائجنا ترابطاً قوياً بين العديد من الضغوطات النفسية و التوترات التي حدثت بعد الوصول إلى النرويج (الضغط النفسي ما بعد الهجرة) و صحة المشتركين النفسية. قمنا أيضاً بتقييم لمستويات الضغط النفسي ما بعد الهجرة بمقاييس مختلفة. الشكل الأكثر شيوعاً للضغط النفسي الذي عانى منه المشتركين بالإجابة "غالباً/غالباً جداً" هو الشعور بالحزن لأنني لم يجتمع شملتي بأفراد عائلتي (51.3%)، يليه الشعور بالإحباط لأنني لا أستطيع استخدام كفاءاتي في النرويج (43.7%)

الأقل شيوعاً كان الشعور بعدم القدرة على شراء الضروريات (10.5 %)، والشعور بعدم الاحترام بسبب الخلفية القومية (5.1 %).

من ضمن المشتركين الذين أجابوا بأنهم "غالباً/غالباً جداً" قد عانوا من الحزن لأنهم لم يجتمع شملهم بأفراد عائلتهم، كان معدل انتشار الاضطراب النفسي ما بعد الصدمة مع ظهور أعراض محددة 43.4 %، ومعدل انتشار القلق/الاكتئاب 43.6 % من ضمن المشتركين الذين أجابوا "غالباً/غالباً جداً" بأنهم عانوا من الاحباط لأنهم لم يتمكنوا من استخدام كفاءاتهم في النزوح، كانت نسبة حدوث الاضطراب النفسي ما بعد الصدمة مع ظهور أعراض محددة 51.7 %، ونسبة حدوث القلق/الاكتئاب 48.5 %.

أكثر الضغوط النفسية التي ترتبط ارتباطاً وثيقاً بالصحة النفسية كانت عوامل الضغط النفسي المرتبطة بالوضع المالي والشعور بعدم الاحترام. من بين المشتركين الذين أجابوا "غالباً/غالباً جداً" بأنهم عانوا من عدم قدرتهم على شراء الضروريات، كان معدل انتشار الاضطراب النفسي ما بعد الصدمة مع ظهور أعراض محددة 67.4 %، ومعدل انتشار القلق/الاكتئاب المحدد الأعراض 65.1 %.

من ضمن المشتركين الذين أجابوا "غالباً/غالباً جداً" بأنهم عانوا من عدم الاحترام بسبب خلفيتهم القومية، كان معدل انتشار الاضطراب النفسي ما بعد الصدمة مع ظهور أعراض محددة 63.6 %، وكان انتشار القلق/الاكتئاب 59.5 %.

أخيراً وليس آخراً: أفاد 45.4 % من المشتركين في هذه الدراسة بأنهم يتمتعون بجودة حياة جيدة أو جيدة جداً، بينما أفاد 57.3 % أنهم راضون أو راضون جداً عن صحتهم.

الخلاصة.

تشير النتائج الواردة في هذا التقرير إجمالاً إلى مستوى عالٍ من التعرض لأحداث خطيرة وربما مؤلمة قبل و أثناء و بعد النزوح، ومستويات مرتفعة من مشاكل الصحة النفسية بين اللاجئين الراشدين من سوريا والمقيمين في النزوح بالمقارنة مع غيرهم من السكان. هذه النتائج مطابقة لنتائج أخرى مستخلصة من دراسات سابقة مشابهة لهذه الدراسة. ومع ذلك فإننا نوصي بالحد من هذه النتائج عند تفسير هذه النتائج. يجري تقييم حدوث مشاكل في الصحة النفسية من خلال الإجابات الواردة في استمارة الأسئلة ومدى جدتها، وليس بناء على مقابلات تشخيصية سريرية. لا شك أن النتائج تظهر أن العديد من اللاجئين من سوريا قد عانوا من أحداث خطيرة ومرهقة جداً قبل و أثناء و بعد النزوح و تشكل عبئاً كبيراً عليهم. إلا أنه من المهم الانتباه إلى أن ظهور بعض تلك الأعراض النفسية الذي تم التبليغ عنها من خلال الإجابات، قد يكون مبالغاً فيه أو يكون ناتجاً عن حالات أخرى غير نفسية.

ومع ذلك، فإن النتائج الواردة في التقرير تظهر أن هناك حاجة لاتخاذ تدابير مساعدة للأشخاص الذين يعانون من أعراض مشابهة، و التي قد تساهم في الحد من تدهور الصحة النفسية لدى اللاجئين السوريين المقيمين في النزوح و تحسين جودة حياتهم.

إضافة لذلك، فمن المهم ملاحظة أن العديد من عوامل الضغط النفسي المرتبطة بالصحة النفسية الواردة في هذا التقرير، مثل الشعور بعدم الاحترام بسبب الخلفية القومية، وكذلك عدم القدرة على شراء الضروريات، هي أمور مرتبطة بالظروف والبنى الاجتماعية والاقتصادية المتعلقة بالحياة في النزوح، التي يمكننا نحن كبلد مضيف، أن نغيرها أو نحسنها.

* ان ظهور الاضطراب النفسي ما بعد الصدمة PTSD ، مثل القلق/الاكتئاب يتم تعريفه عن طريق عوارض محددة، بعبارة أخرى يتم تحديده على اساس مقاييس معينة معمول بها. ان الاعراض النفسية الذي تم التبليغ عنها من خلال الإجابات ودرجة خطورتها، ليس بناء على مقابلات تشخيصية سريرية.

Sammendrag (Norsk)

REFUGE-studien ble igangsatt for å styrke dagens kunnskap om psykisk helse og livskvalitet blant voksne flyktninger fra Syria som er bosatt i Norge. Hovedmålet med studien er å undersøke hvordan psykisk helse kan påvirke integrering i årene etter bosetting. Studien, slik den er planlagt, vil omfatte en longitudinell, spørreskjema-basert undersøkelse, en kvalitativ intervju-basert undersøkelse og data fra flere norske registre. Målet er å samle flere av disse datakildene i en ny internasjonal, delt database kalt REFUGE-databasen. I denne rapporten presenterer vi hovedfunnene fra den første kvantitative datainnsamlingen i Norge.

Prosedyre og respondenter

REFUGE-studien er den første studien som retter seg inn mot et stort, landsomfattende og tilfeldig utvalg voksne flyktninger fra Syria som nylig er bosatt i Norge. Den første datainnsamlingen (REFUGE-I) ble lansert i november 2018 og fullført i september 2019. Innsamlede spørreskjemadata inkluderer her utfyllende informasjon om sosiodemografiske variabler, potensielt traumatiserende opplevelser før, under og etter flukt (pre-, peri- og post-migratorisk stress), psykisk helse og livskvalitet. Av de 9 990 potensielle deltakerne i studien ble 8 752 nådd enten via post eller telefon, og 902 besvarte undersøkelsen (svarprosent = 10,3 %). Blant de 902 respondentene var 64,5 % menn og 35,5 % kvinner. De største aldersgruppene besto av respondenter i alderen 30–39 år (34,4 %) og 40–49 år (25,5 %). Av de 902 respondentene ankom 52,5 % til Norge som asylsøkere, mens 31,6 % og 15,4 % var henholdsvis kvote-/overføringsflyktninger og familiegjenforente flyktninger.

Hovedfunn

Samlet sett rapporterte respondentene i REFUGE-studien en relativt høy eksponering for potensielt traumatiserende opplevelser før, under og etter flukt. På linje med funn fra tidligere studier, fant vi også en relativt høy forekomst av psykiske helseproblemer* sett i forhold til den generelle befolkningen i Norge.

* Prevalensene for PTSD, angst og depresjon er «symptomdefinert», med andre ord, estimert på bakgrunn av anbefalte cut-off verdier, selvrapporterte symptomer og alvorlighetsgrad, ikke diagnostiske intervjuer.

Totalt sett rapporterte ca. 40 % av respondentene at de hadde opplevd fem eller flere potensielt traumatiske opplevelser (PTEs) før flukten fra Syria. Kvinner rapporterte færre slike opplevelser enn menn. De hyppigst rapporterte opplevelsene var *krig på nært hold* (96,0 %) og *skremmende situasjoner der respondentene mente de var i livsfare* (88,5 %). Den største forskjellen mellom menn og kvinner ble funnet i deres erfaring med tortur, der 34,6 % av mennene rapporterte å ha opplevd tortur, mot 18,4 % av kvinnene.

Sett under ett var prevalensen for posttraumatisk stress (PTSD) 34,7 %, med noe høyere prevalens hos menn (36,0 %) enn kvinner (32,3 %). Denne forskjellen var allikevel ikke statistisk signifikant lavere hos kvinnene. Forekomsten av angst/depresjon var 35,5 %, denne gangen litt høyere hos kvinner (37,8 %) enn hos menn (34,4 %), men ikke signifikant forskjellig.

Mulige sammenhenger mellom psykiske helse og eksponering for PTEs før eller under respondentenes flukt til Norge ble også identifisert. Forekomsten av PTSD var høyere for respondenter som rapporterte å ha opplevd fem eller flere PTEs før eller under flukten fra Syria (51,7 %), sammenlignet med respondenter som hadde opplevd færre enn fem PTEs (19,6 %). Videre var forekomsten av angst/depresjon også høyere for respondenter som rapporterte å ha opplevd fem eller flere PTEs (50,6 %), sammenlignet med de av respondentene som hadde opplevd færre enn fem PTEs før eller under sin flukt fra Syria (22,7 %).

Videre viser våre funn flere mulige sammenhenger mellom ulike stressorer opplevd etter ankomst til Norge (post-migratorisk stress) og respondentenes psykiske helse. Post-migratorisk stress ble kartlagt med mål på syv ulike stressorer. Den vanligste formen for stress som respondentene opplevde «ofte / veldig ofte», var å føle seg *trist fordi jeg ikke er gjenforent med familiemedlemmer* (51,3 %), etterfulgt av å oppleve *frustrasjon fordi jeg ikke får benyttet meg av kompetansen min i Norge* (43,7 %). Minst vanlig var opplevelsen av det å *ikke kunne kjøpe seg det nødvendige* (10,5 %) og det å *føle mangel på respekt på grunn av nasjonal bakgrunn* (5,1 %).

Blant respondentene som rapporterte «ofte / veldig ofte» å ha opplevd *tristhet fordi de ikke var gjenforent med familiemedlemmer*, var prevalensen for PTSD 43,4 %, og prevalensen for angst/depresjon 43,6 %. Blant respondentene som «ofte / veldig ofte» rapporterte å ha opplevd *frustrasjon fordi de ikke var i stand*

til å benytte seg av sin kompetanse i Norge, var forekomsten av PTSD 51,7 % og forekomsten av angst/depresjon 48,5 %.

De stressorene som var sterkest knyttet til psykisk helse, var stressfaktorer knyttet til *økonomi* og en følelse av *manglende respekt*. Blant respondentene som rapporterte «ofte / veldig ofte» å ha opplevd at de *ikke kunne kjøpe det nødvendige*, var prevalensen av PTSD 67,4 %, og prevalensen av angst/depresjon 65,1 %. Blant respondentene som rapporterte «ofte / veldig ofte» å ha opplevd *mangel på respekt på grunn av sin nasjonale bakgrunn*, var prevalensen av PTSD 63,6 % og prevalensen av angst/depresjon 59,5 %.

Sist, men ikke minst, 45,4 % av respondentene i denne studien rapporterte å ha en god eller veldig god livskvalitet, mens 57,3 % rapporterte at de var fornøyd eller veldig fornøyd med helsen.

Konklusjon

Samlet sett antyder funnene i denne rapporten et relativt høyt nivå av eksponering for potensielt traumatiske hendelser før, under og etter flukt og relativt høye nivåer av psykiske helseproblemer blant voksne flyktninger fra Syria som er bosatt i Norge, sammenliknet med befolkningen for øvrig. Disse funnene er på linje med det som er funnet i tidligere, sammenliknbare studier.

Vi anmoder imidlertid om forsiktighet når disse resultatene skal tolkes. Forekomsten av psykiske helseproblemer er estimert på bakgrunn av selvrapporterte spørreskjemadata, ikke kliniske, diagnostiske intervjuer. Utvilsomt viser funnene at mange flyktninger fra Syria har opplevd alvorlige og svært belastende hendelser både før, under og etter flukt, og lider under byrden av disse opplevelsene. Allikevel er det viktig å være oppmerksom på at forekomsten av psykisk uhelse som rapporteres kan være overestimert eller forårsaket av andre, ikke-psykiatriske forhold.

Funnene i rapporten synliggjør allikevel et behov for tiltak som kan lindre symptomer, forbedre livskvaliteten og forhindre ytterligere forverring av psykisk helse blant flyktninger fra Syria i Norge. Videre er det verd å merke seg at flere av stressorene som knyttes til psykiske helseproblemer i denne rapporten, *som det å føle mangel på respekt på grunn av sin nasjonale bakgrunn*, samt *det å ikke kunne kjøpe det nødvendige*, kan relateres til tiden etter bosetting i Norge.

Disse stressorene er forbundet med samfunnsmessige forhold og sosioøkonomiske strukturer i den norske konteksten som vi som mottaksland kan endre og/eller forbedre.

Important key constructs

Refugee: Generally speaking, a refugee is a displaced person who cannot return home safely. More specifically, refugees are individuals who are unwilling or unable to return to their country of former residence, due to threatening challenges grounded in race, religion, nationality, or the membership of a particular social or political group. (<https://www.unhcr.org/what-is-a-refugee.html>). Such a person may be called an asylum seeker until granted refugee status by a host country if they formally make a claim for asylum. In this report, the term refugee is generically used to describe both resettlement refugees/quota refugees, respondents who were reunited with family, and asylum seekers who have received permanent or temporary residence in Norway.

Asylum seeker: An asylum seeker is someone who seeks international protection, where the request for asylum is not yet determined by the host country (https://en.wikipedia.org/wiki/Asylum_seeker). In this report, the term refers to respondents in the study who sought asylum in Norway and were granted permanent or temporary residency in this way.

Resettlement refugees / Quota refugee: Resettlement refugees or quota refugees are registered as refugees by the UN High Commissioner for Refugees (UNHCR), but cannot be offered a permanent residency in the country they are currently in. Refugees in this situation can be offered resettlement in a third country. It is the UNHCR that applies for resettlement on behalf of the refugees and The Norwegian Directorate of Immigration (UDI) decides who to admit. If granted residency, UDI organizes the journey and resettlement in a Norwegian municipality (www.udi.no). In this report, the terms refer to respondents in the study who were granted residency this way.

Family reunification: Family reunification refers to the legal process by which a refugee can be reunited with their family members in a host country. In this report, the term ‘family reunification refugees’ refers to respondents who already had family members in Norway and were reunited in Norway as a result of this legal process.

Forced migration: Forced migration refers to different forms of displacement or involuntary movement of individuals, both across international borders and

inside a single country. Reasons for displacement can be disasters, conflicts, famine or large-scale development projects. The term 'forced migration' is used by social scientists as a general, open-ended term and is not a legal concept, and there is no universally accepted definition. Referring to refugees as 'forced migrants' can shift attention away from the legal obligations of the international community. We therefore use the term 'refugees', which incorporates the legal definition, while we use the term 'forced migration' to describe the movement/flight refugees undertake to reach a host country. In this report, the term 'forced migration' refers to the movement respondents in the study undertook to reach Norway.

Mental health problems: In this report, we present several findings related to mental health problems under the heading 'Mental health'. The term 'mental health problems' is used instead of more specific terms such as 'mental health disorders' and 'mental ill health and/or illness' to highlight the underlying limitations ingrained in the mental health measures used in this report. The use of the term also reflects the methodological limitations inherent in the way our study was conducted (self-reported symptoms), and the interpretational limitations that follow. Results presented under the 'Mental health' heading should therefore be interpreted with caution.

Quality of life (QOL): In the present report, we investigate refugees' physical and psychological satisfaction with life, by utilising two overarching questions from The World Health Organisation's Quality of Life scale (WHOQOL-BREF). WHO defines quality of life 'as individuals' perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns'.² Thus, QOL, aptly described as 'the missing measurement in health research', is a broad-ranging construct that is 'affected by the person's physical health, psychological state, level of independence, social relationships, personal beliefs and their relationship to salient features of their environment'. Again, the use of self-report questionnaires, although effective in reaching large populations, has its shortcomings. When interpreting the findings of QOL in this report, we therefore urge the use of caution, due to possible cross-cultural differences in the understanding of what constitutes a good life.

Sources; www.unhcr.org - www.wikipedia.org - www.udi.no - www.who.int

Introduction

The civil war in Syria has taken a severe toll on the Syrian population, with over 400,000 people reported dead and 13 million reported to be in need of humanitarian aid. The majority of the estimated 5.6 million Syrians who have fled the country as refugees since 2011 currently reside in Syria's neighbouring countries (Turkey, Jordan and Lebanon), while about one million have fled to Europe. In the peak year of 2015, just over 10,500 refugees from Syria applied for asylum in Norway and an estimated 26,000 lived in the country at the start of 2018, according to statistics from the Norwegian Directorate of Immigration (UDI).

Being a refugee is psychologically stressful and increases the risk of mental health problems. Considering that the number of displaced people now has exceeded an unprecedented 75 million globally, including more than 25 million refugees, the need to understand and address the health challenges of refugee populations is more pressing than ever. Previous research has been wide-ranging, encompassing a multitude of fields and disciplines as researchers grapple with the key concerns of these vulnerable though often resilient groups of migrants. Mental health has been a significant area of study, largely due to the traumatic circumstances that so often characterise refugees' experiences, both pre-flight and in transit to Europe.³

Previous research has demonstrated high to very high levels of posttraumatic stress disorder (PTSD), anxiety and depression in refugee populations compared to non-displaced populations. Exposure to potentially traumatic events, such as torture, war and/or violence-related traumas prior to or during forced migration, as well as post-migration socioeconomic hardships and social isolation, constitute profound mental health risks with potential long-lasting effects.^{1,4,5} Still, a number of recent systematic reviews and meta-analyses highlight the extent to which the research field suffers from heterogeneity in methods used and low generalisability of findings. Perhaps most concerning, the consensus among researchers is that the scientific quality of the studies produced in the field has been poor.⁵⁻¹¹ In fact, challenges related to representative, random sampling within this hard-to-reach population have led many researchers to rely on convenience sampling, meaning that results often lack generalisability. As an example, a 2015 systematic review by Bogic and colleagues reported that

prevalence rates of depression varied from 2.3% to 80% and, similarly, PTSD prevalences ranged from 4.4% to 86%, with high quality studies reporting the more conservative prevalence estimates.⁶ Two reviews also note a wide variation in results according to the methodology used, e.g. the use of clinical interviews vs. self-report questionnaires.^{7,9} Widely different settings and/or contexts of studies, such as refugee camps, squats, health facilities and resettlement communities, also seem to be associated with heterogeneity in results, providing vastly different findings.⁸ Researchers have also tended to group all refugees together as a homogenous group, implying that they are likely to experience similar outcomes despite the range of different pre-flight environments from which they originate. This approach fails to capture the unique pre-flight socially, economically and politically heterogeneous situations in each country of origin. Indeed, some studies comment on significant differences between nationalities within samples, noting that both country of origin and country of resettlement play an important role in mental health outcomes,^{6,7} with Syrian respondents often reporting higher levels of PTSD symptoms compared to refugees from other nations.¹²

Since 2014, some studies have also examined the mental health of various populations of refugees resettled in high-income countries. Results, while variable, have generally reported prevalences of PTSD, anxiety and depression to be higher than host population prevalences. Additionally, research comparing resettled refugees with non-refugee migrants from war and conflict zones have also found differences in their health behaviour, highlighting that refugees are more likely to use healthcare services, and more likely to purchase medications for the management of mental health problems and/or disorders.¹³ This suggests that the refugee experience itself, and not only the country of origin or destination, plays a part in the mental health outcomes of individuals. Furthermore, studies have linked the asylum process itself and the uncertainty of refugees' visa status to the development of mental health problems.¹³⁻¹⁵

Finally, given the high burden of mental health problems in refugee populations and the centrality of functional impairment in the diagnostic frameworks for PTSD, anxiety and depression in the main diagnostic manuals,^{16,17} surprisingly few studies have looked at integration in relation to mental health and quality of life within refugee populations. The studies available show that general health problems, as well as symptoms of PTSD and depression, are adversely associated

with economic and social integration,^{18,19} with one study finding mental health to be a mediator between post-migration stressors and integration.²⁰

In summary, there is a lack of methodologically sound longitudinal studies incorporating refugees originating from a single Middle-Eastern country, and there is a need for studies focusing on refugees' mental health and quality of life in relation to integration in high-income host countries. Moreover, at present, reliable and up-to-date prevalence estimates for Norway's refugee populations are lacking. Longitudinal studies with large sample sizes and rigorous methodology are therefore warranted, in order to gain a better understanding of the mental health burden and quality of life among resettled refugees in Norway.

According to the Norwegian Directorate of Immigration (UDI), more than 31,000 people applied for asylum in Norway in 2015. The largest groups came from Syria, Afghanistan and Iraq. Accordingly, the REFUGE study was initiated to enhance current knowledge on mental health and quality of life among newly-resettled adult refugees residing in Norway. Refugees from Syria constituted the largest group seeking refuge in Norway in 2015 and were hence selected as the initial target population. The main objective of the study is to investigate how mental health and quality of life may affect integration in the years following resettlement. In the years to come, our investigation will utilise data from several data-sources, both quantitative and qualitative, linked to population-based data registries in Norway. The registries we will use describe education levels attained, work participation and sick-leave levels, healthcare utilisation and drug prescription among the respondents. According to the pre-registered plans for the study as a whole, findings from these data sources will be regularly presented in scientific articles and finally as a report summarising the completed study.

In the present, brief report, we present some of the main findings from the first wave of quantitative data collection (REFUGE I). The aim of the report is to provide a first glimpse and general overview of the current psychosocial situation for resettled refugees from Syria in Norway and discuss our research path moving forward.

The REFUGE study is registered in the ClinicalTrials.gov database (NCT03742128).

Method

In this section, we describe the design and methods used, including setting, eligibility restrictions, preparations and promotions that relate to the first wave of quantitative data collection (REFUGE I). The linkage of self-report data to registry data will be conducted in 2023, after all quantitative self-report data has been collected.

Setting

The study took place in Norway, a high-income country with a population of 5.3 million people. Approximately 4.5% of the Norwegian population has a refugee background. At the time of primary data collection, refugees from Syria constituted the largest group of newly resettled refugees in Norway and was therefore chosen as the source population for the study.

Eligibility

The source population for the REFUGE study cohort was defined by three criteria; potential respondents had to be: (1) a Syrian citizen who arrived in Norway as either a resettlement refugee (quota refugee), an asylum seeker, or through Norway's family reunification program; (2) granted permanent or temporary residency and registered with an address in Norway between January 1, 2015 and December 31, 2017; and finally, (3) 18 years of age or older at the time the sample was drawn from the source population.

These criteria were sent to the Norwegian National Registry (NNR) who generated a list of potential respondents (N = 14,350) from their database consisting of all eligible individuals residing in Norway at that time. A simple, random, equal probability sample of 9,990 Syrian citizens was then drawn in August 2018.

Study preparation, promotion and user involvement

During initial stages of the study's development, approximately a year before the commencement of the data collection, an early version of the questionnaire was tested at a reception centre. Arabic-speaking asylum seekers filled out the survey

and participated in focus groups with the aim of testing and tailoring the questionnaire for length, comprehension and cultural sensitivity. Several amendments to the questionnaire then followed as a result of the feedback obtained in these focus groups. Findings from this preliminary stage also prompted the creation of a user reference group, consisting of six Syrians living in Norway. This user reference group served as an advisory board throughout the planning, development and implementation of the study.

Additionally, prior to data collection, a number of strategies were employed to inform potential respondents about the study and boost response rates. Key persons within the community were identified and contacted to discuss ways to explain and promote the study through social media and other channels. Based on input from these sources, several short, animated movies were made in Arabic that explained why the study was being undertaken, what participation entailed, and how key issues in research, such as informed consent, confidentiality, data handling, and privacy rights, would be handled. REFUGE web and Facebook pages were also created in both Arabic and Norwegian, conveying the same information as the movies, in more detail. The Facebook page, with Q&A, was continuously supervised and moderated by two native Arabic-speaking students employed in the REFUGE project.

In order to reach a wider range of potential respondents, we also arranged for in-person and paper-based dissemination of information. Information and Q&A sessions at adult education centres (VOs) in Norway's larger cities were held by REFUGE team members, together with an Arabic interpreter from Syria who was involved in all stages of the project. Information about the study was also sent to local community refugee centres throughout Norway. These centres work with refugees on a daily basis, offering them assistance and counselling on various matters related to the integration process into Norway. Finally, a live Facebook and radio stream with a Q&A session was broadcasted to approximately 10,000 listeners and viewers through the Facebook channel of *Radio Mangfold* (Radio Diversity).

Procedure

Three waves of questionnaire surveys are planned for the quantitative part of the REFUGE study (REFUGE I, II, and III). The questionnaire and methods used will be similar for all three waves of the study, but incorporate different themes related to

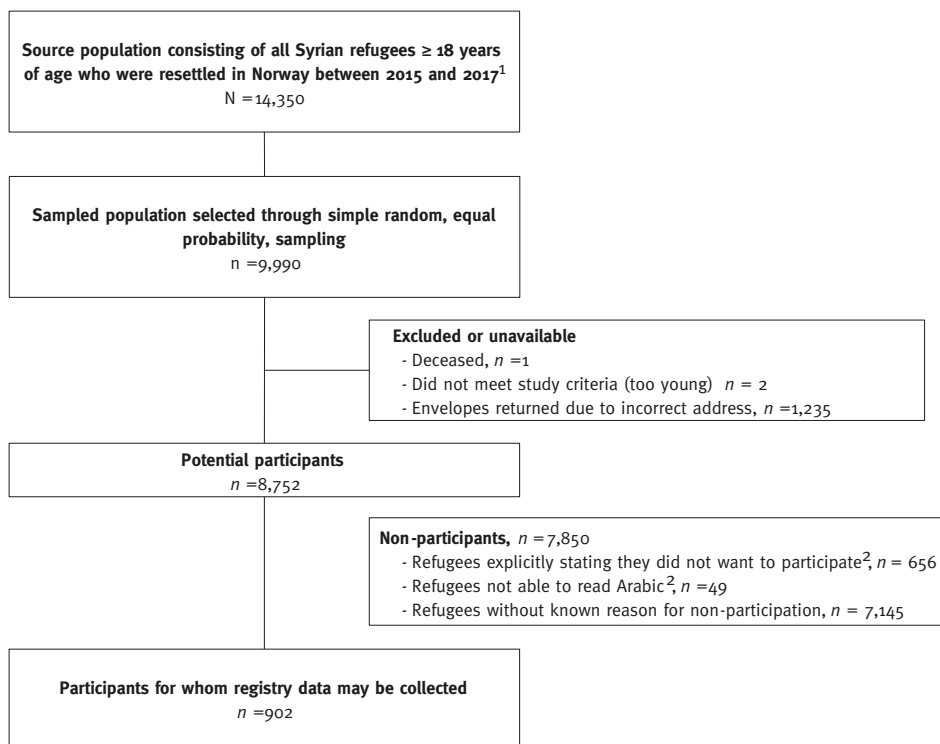
mental health, quality of life and integration over time. Here we describe the first wave completed in 2019.

The first wave of the REFUGE study (REFUGE I) was launched at the end of November 2018. Each of the 9,990 individuals in the sample population were sent an envelope containing an Arabic version of the study questionnaire, a cover letter, and a prepaid return envelope. The cover letter, also in Arabic, explained the purpose and voluntary nature of the study, what participation entailed, and issues surrounding confidentiality and data handling. It also included a space for willing respondents to provide written informed consent in the form of a signature.

The address list provided by the Norwegian National Registry (NNR) included 1,235 addresses where the addressee was either not found or could not be reached. These potential respondents were never found and were therefore excluded from the study. Current rules for conducting research surveys in Norway prohibit more than one reminder (to encourage participation) being sent out to non-responders. Based on a small pilot project testing the use of telephone reminders with Arabic-speaking personnel conducted on 530 non-responders in the sample, it was decided that telephone reminders would be used for all non-responders with an available telephone number ($n = 5,675$). Telephone contact was achieved with less than half of this group ($n = 2,087$). Individuals reached by phone were reminded of the study, and asked whether they needed a new questionnaire. Table 1 summarises the answers given by this group when asked to participate. The telephone reminders were conducted in late March and early April 2019. A postal reminder which included the questionnaire, the cover letter with informed consent and a prepaid return envelope was also sent out to non-responders who were not reached via telephone ($n = 5,000$). The postal reminder was sent out in early June 2019. Figure 1 summarises the flow of respondents through REFUGE I.

Table 1 Answers given by initial non-responders during telephone reminder (n = 2,087)

	<i>n</i>	(%)
Answers given by refugees		
Would like to participate and does not need a new questionnaire	403	(19.1)
Would like to participate and needs a new questionnaire	856	(40.8)
Does not want to participate	656	(30.8)
Moved and wants a new questionnaire	69	(3.3)
Moved and does not want a new questionnaire	29	(1.4)
Wrong number/person	25	(1.2)
Does not understand Arabic	49	(2.4)
Total	2,087	(100.0)

Figure 1 The flow of participants through the study

¹ Refugees were either resettlement/quota refugees; asylum seekers who were granted asylum in Norway; or individuals coming through the program *Family immigration with a person who has protection (asylum) in Norway*. The source population was identified through the Norwegian National Registry (NNR)

² Information was obtained when non-responders were contacted during the telephone reminder

According to the original plan registered at ClinicalTrials.gov, data collection was planned to run for about six to eight weeks. However, due to a low response rate at the time of the planned closing date in mid-January 2019, the study was extended, and the final closing date was in early September 2019. All procedures concerning the selection and recruitment of respondents, including consent procedures, were approved by the Regional Committees for Medical and Health Research Ethics (REC) Region South East (A) in Norway, reference number 2017/1252.

The distribution of the postal survey and logistics of data collection were handled by the research and consulting firm Ipsos, which has extensive experience with and the infrastructure for these types of surveys. Ipsos is also responsible for securely storing respondents' Norwegian identity numbers, ensuring that longitudinal tracking of individuals and linking to registry data will be possible. The identity numbers are unknown to all researchers involved.

Measures

Socio-demographics

It is important to note that refugees represent a heterogeneous group in terms of flight experiences, refugee status, age, gender and family structure. Previous research has, to some degree, ignored this fact and tended to group 'refugees' together as a homogenous group, in turn implying that they are likely to be in a similar psychosocial situation despite, for example, the range of different pre- and peri-flight conditions they might have experienced. Ignoring this fact may blur results and leave out important differences such as those between asylum seekers and resettlement refugees, that could prove important when utilising the findings of research for outcomes such as the tailoring of mental health interventions or the implementation of policy change. Important socio-demographic variables in the report therefore include: gender, age, marital status, number of children, education, refugee status upon arrival (e.g. asylum seeker, quota refugee, family reunification refugee), whether the respondent arrived in Norway alone or with a partner, family and/or friends, whether other family members had already settled in Norway prior to the refugee's arrival in the country, time elapsed between when a respondent fled Syria and arrived in Norway, and time staying in Norway prior to participating in the study.

Trauma history prior to arriving in Norway

Data on potentially traumatic events (PTEs) experienced by refugees either before or during the flight from Syria was obtained through The Refugee Trauma History Checklist (RTHC), developed by Sigvartsdotter and colleagues in 2017. The checklist consists of eight questions about PTEs experienced either before or during flight (e.g. ‘Personally faced war at close quarters’; ‘Personally faced physical violence or assault’). The items are asked separately for *before* and *during* flight, meaning there is one 8-item scale for pre-migration events (before flight) and one 8-item scale for peri-migration events (during flight). All items are answered on a binary outcome scale (Yes/No). In the present report, the two scales were combined in order to reflect overall exposure, prior to resettlement in Norway. Thus, a respondent who answered ‘Yes’ for a given experience either before or during the flight (or both), was categorised as having experienced that particular PTE. In addition, we created a binary version of the combined scale with refugees having experienced four or fewer PTEs in one group and refugees having experienced five or more PTEs in the other. The scale was translated into Arabic by the developers of the instrument.²¹

Potentially stressful experiences after arriving in Norway

Data on post-migratory stress, i.e., stressful experiences after arriving in Norway, was collected through the Post-migratory stress scale developed by Malm and colleagues.²² The complete scale consists of 24 items (e.g. ‘felt disrespected due to your national background’ and ‘been unable to buy necessities’). All items are scored on the following 5-point scale: never; seldom; sometimes; often; very often. This report focuses on seven key questions thought to tap into the seven different domains of the scale – for details, please see Tinghög et al 2017.²³ All seven items were made binary with answer choices never/seldom/sometimes combined into one category (‘Rarely experienced’) and answer choices often/very often into the other (‘Often experienced’). The scale was translated into Arabic by the developers.²⁴

Social support

Data on social support was collected using two questions utilised in Statistics Norway’s survey on living conditions and the ENRICHD Social Support Inventory, ESSI.²⁵ In the present report, we only present results from the two items from Statistics Norway’s survey. Item 1 asks ‘How many people are so close to you that you can count on them if you have serious problems?’ There are four possible response categories: none; 1-2; 3-5; >5. Item 2 asks ‘How easy can you get help

from your neighbours if you should need it? with the following possible response categories: very easy; easy; possible; difficult; very difficult. The graphs in the 'Results' section for Item 1 report the percentage of respondents in the higher three categories (i.e. the percentage with one or more person(s) they can count on). The graphs for Item 2 report the percentage of respondents in the lower three categories (i.e. the percentage who find it very easy/easy/possible to get help from neighbours).

Post-traumatic stress symptoms

The Harvard Trauma Questionnaire (HTQ), Section IV, items 1-16, was used to measure symptoms of post-traumatic stress.^{26,27} These first 16 items are developed in accordance with the Diagnostic and Statistical Manual of Mental Disorders, version IV (DSM-IV) criteria for the PTSD diagnosis. Each item is measured on a four-point scale: 1 = Not at all; 2 = A little; 3 = Quite a bit; 4 = Extremely. In order to estimate the prevalence of symptom-defined PTSD, a mean-item score was calculated for the scale (range: 1.0 - 4.0). In line with Tinghög et al., 2017,²³ a mean-item score > 2.06 was used to define a checklist-positive PTSD case. To be included in analyses, respondents had to answer 14 or more of the 16 items.

Symptoms of anxiety and depression

Symptoms of anxiety and depression were measured using the Hopkins Symptom Checklist (HSCL-25), which consists of 25 items. The first 10 items measure anxiety and the next 15 measure depression.²⁸ All items are scored on a four point scale: 1 = Not at all; 2 = A little bit; 3 = Quite a bit; 4 = Extremely. In order to estimate the prevalence of symptom-defined anxiety/depression, a mean-item score of all 25 items was calculated. In line with Tinghög et al. 2017,²³ a score above 1.80 was used to define a checklist-positive case of anxiety/depression. To be included in analyses, respondents had to answer 23 or more of the 25 items.

Quality of life

Quality of life was measured using the World Health Organisation's Quality of Life scale (WHOQOL-BREF).^{29,30} In the present report, we present descriptive statistics on the two stand-alone items designed to measure overall quality of life and overall satisfaction with health, both scored on a 5-point scale. Item 1 asks '*How would you rate your quality of life?*' Respondents are given five answer choices: very poor; poor; neither poor nor good; good; very good. Item 2 asks '*How satisfied are you with your health?*', and respondents are given the answer

choices: very dissatisfied; dissatisfied; neither satisfied nor dissatisfied; satisfied; very satisfied. The graphs in the results section present the percentage of respondents in the upper two categories (i.e. the percentage of people who rate their quality of life as good or very good, and the percentage who report that they are satisfied or very satisfied with their health).

Statistical analyses

The data set was first checked for errors and missing values. The number of respondents with missing data for a given variable can be estimated by subtracting the n in a given table from the total sample of 902. The frequency distributions and percentages presented in tables and graphs were calculated using simple cross-tabulation. Percentages were calculated with missing data excluded. The description of how variables were categorised in cross-tabulations can be found under each variable described above. Analysis of variance (ANOVA) was used to evaluate the statistical evidence for true population differences across the variables and groups presented in the graphs, and p-values < 0.05 were considered statistically significant. Overall prevalences of symptom-based PTSD and anxiety/depression among all respondents were estimated using both unweighted and weighted analysis. Weighted estimates were calculated using post-stratification weights (based on strata combinations of age and marital status) in an attempt to correct for biased estimates caused by non-response. Gender was not included when creating strata weights, because the distribution of gender among respondents was more or less identical to that of the source population.

Main findings

Only statistically significant differences are commented on in this results section, if not stated otherwise. Variables *not* included in this section will be analysed and presented more broadly in later publications and reports.

Participation and socio-demographics

As stated earlier, the Norwegian National Registry (NNR) generated a list of potential respondents (Source population, N = 14,350) from their database consisting of all eligible individuals residing in Norway at that time. A simple, random, equal probability sample population of 9,990 Syrian citizens was then drawn. Of the initial 9,990 individuals in the sample population, 8,752 were reached either by post or telephone and 902 respondents returned the questionnaire (response rate = 10.3%). In the tables below, we provide comparative statistics on respondents in REFUGE-I, compared to the source population and the sample population.

Table 2 compares respondents, the source population and the sample population on key demographic variables. Gender distribution was more or less identical in the three groups. However, there were fewer young and unmarried respondents in the present study. Specifically, the age distribution among respondents differed from the sample and source populations, with the 18-29 age group representing 21.8% of the respondents, in contrast with 42.8% in the source population and 42.7% in the sample population. The 30-39 age group was similar for all populations, while the 40-49, 50-64 and >64 age groups were larger amongst the respondents than in the source and sample populations.

Table 3 compares the sample population and respondents on geographical region of residence in Norway by county. The table shows that respondents in the present study represent all 18 counties, with the relative proportions from each county very similar to that of the sample population.

Table 2 Demographic characteristics of respondents versus sample and source populations

	Source population <i>N</i> = 14,350		Sample population <i>n</i> = 9,990		Respondents <i>n</i> = 902	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Gender						
Female	5,117	(35.7)	3,552	(35.5)	320	(35.5)
Male	9,233	(64.3)	6,446	(64.5)	582	(64.5)
Age						
18-29	6,135	(42.8)	4,265	(42.7)	197	(21.8)
30-39	4,769	(33.2)	3,315	(33.1)	310	(34.4)
40-49	2,263	(15.8)	1,604	(16.0)	230	(25.5)
50-64	1,034	(7.2)	721	(7.2)	145	(16.1)
>64	149	(1.0)	95	(1.0)	20	(2.2)
Civil status						
Unmarried	5,879	(41.0)	4,047	(40.5)	236	(26.1)
Married	7,873	(54.8)	5,545	(55.5)	595	(66.0)
Other ¹	598	(4.2)	398	(4.0)	71	(7.9)
Year granted residency in Norway						
2015	2,993	(20.8)	2,081	(20.8)	N/A ²	
2016	7,513	(52.4)	5,267	(52.7)		
2017	3,844	(26.8)	2,652	(26.5)		

1 Includes widow(er), separated, divorced

2 Individual-level data on the year residency was granted was not provided by the Norwegian National Registry.

Table 3 Geographical distribution across Norway's 18 counties for respondents versus sample population

	Sample population <i>n</i> = 9,990		Respondents <i>n</i> = 902	
	<i>n</i>	(%)	<i>n</i>	(%)
Akershus	703	(7.0)	52	(5.7)
Aust-Agder	347	(3.5)	30	(3.3)
Buskerud	470	(4.7)	39	(4.3)
Finnmark	254	(2.5)	23	(2.6)
Hedmark	311	(3.1)	30	(3.3)
Hordaland	1,009	(10.1)	88	(9.8)
Møre og Romsdal	486	(4.9)	51	(5.7)
Nordland	670	(6.7)	65	(7.2)
Oppland	381	(3.8)	37	(4.1)
Oslo	773	(7.7)	70	(7.9)
Rogaland	831	(8.3)	63	(7.0)
Sogn og Fjordane	380	(3.8)	34	(3.8)
Telemark	398	(4.0)	40	(4.4)
Troms	449	(4.5)	51	(5.7)
Trøndelag	1,049	(10.5)	96	(10.5)
Vest-Agder	520	(5.2)	50	(5.5)
Vestfold	475	(4.8)	44	(4.9)
Østfold	484	(4.9)	39	(4.3)
Total	9,990	(100.0)	902	(100.0)

Table 4 provides descriptive statistics for the respondents, including number of children, years of education and refugee status on arrival. Among the 902 respondents, 64.5% were male and 35.5% were women. The largest age groups consisted of respondents age 30-39 (34.4%) and age 40-49 (25.5%). A total of 52.5% of respondents arrived in Norway as asylum seekers, while 31.6% and 15.4% were quota/resettlement refugees and family reunification refugees, respectively. Notably, the most common flight duration was less than three months (37.6%); however, the second most common response was more than three years (24.2%), highlighting the variety in experiences that respondents have lived through on their way to refuge. It is also worth noting that a majority of the respondents arrived in Norway with family (65.5%).

Table 4 Descriptive statistics for respondents (n = 902)

	Respondents n = 902	
	n	(%)
Number of children		
I do not have children	271	(31.6)
1	63	(7.4)
2	125	(14.6)
3	139	(16.2)
4	101	(11.8)
5	77	(9.0)
6 or more	81	(9.5)
Total	857	(100.0)
Education		
9 years or less	394	(44.7)
10-12 years	158	(17.9)
More than 12 years	330	(37.4)
Total	882	(100.0)
Refugee status upon arrival		
Asylum seeker	454	(52.5)
Quota refugee	273	(31.6)
Family reunion	133	(15.4)
Other	4	(0.5)
Total	864	(100.0)
Arrived in Norway...		
...alone	247	(28.1)
...with friends, but no family	56	(6.4)
...with family	576	(65.5)
Total	879	(100.0)
Family member previously settled in Norway		
No	594	(68.3)
Yes	276	(31.7)
Total	870	(100.0)
Length of flight¹		
Less than 3 months	244	(37.6)
3 to 12 months	73	(11.3)
1 to 2 years	79	(12.2)
2 to 3 years	95	(14.7)
More than 3 years	157	(24.2)
Total	648	(100.0)
Residency time in Norway²		
Less than 2 years	126	(16.7)
Between 2 and 3 years	164	(21.7)
Between 3 and 4 years	385	(51.0)
More than 4 years	80	(10.6)
Total	755	(100.0)

1 Estimated through the number of days between a refugee's departure from Syria and arrival in Norway

2 Estimated through the number of days between a refugee's arrival in Norway and the date they returned the questionnaire

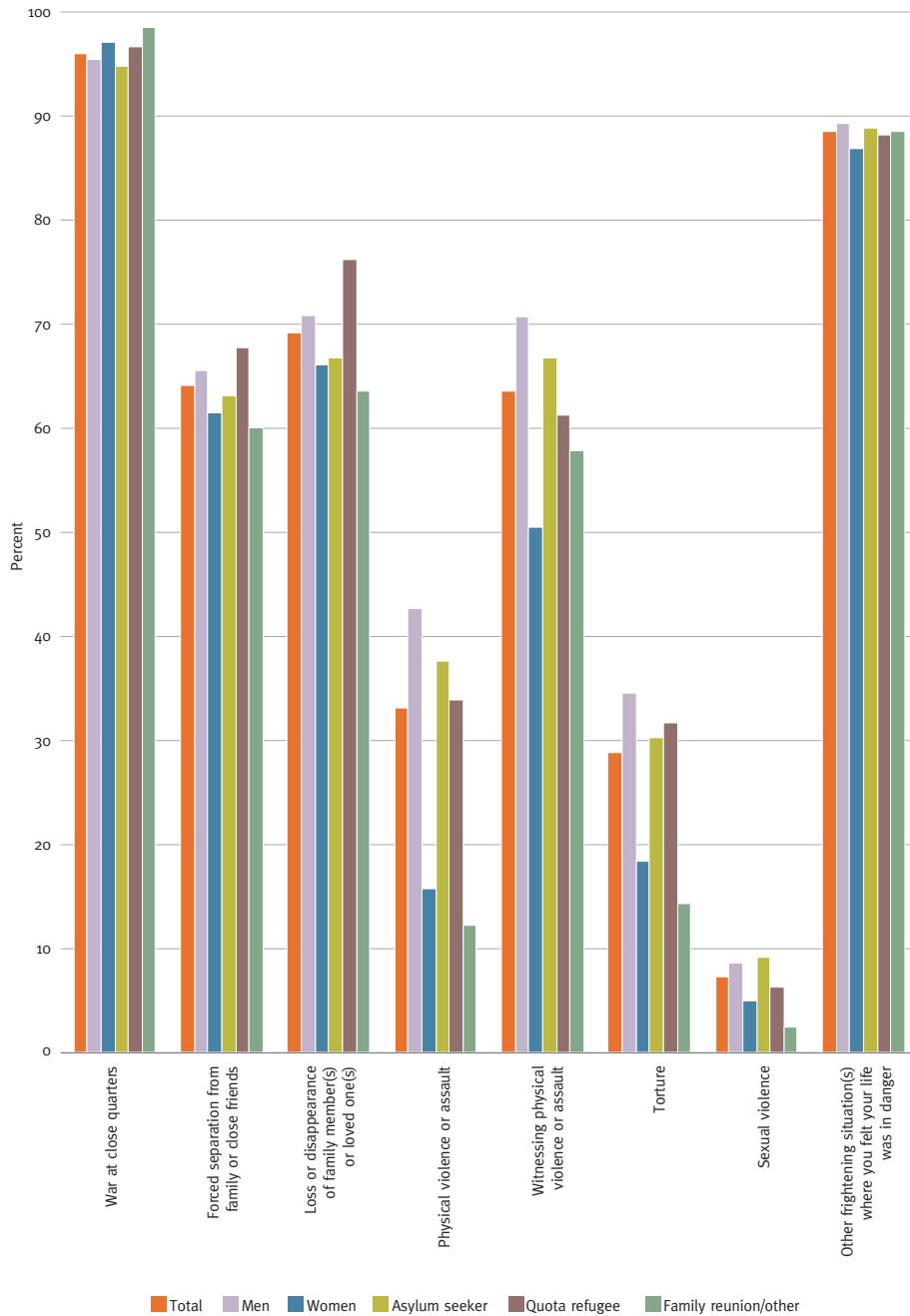
Flight-related exposure

Potentially traumatic events or PTEs are powerful and intruding events or experiences that impose a significant threat to an individual's physical and/or psychological wellbeing, potentially perceived by respondents as a traumatic event. Such events can be exemplified by the exposure to actual or threatened death, serious injury, and/or sexual violence. How people react to these events or experiences vary from individual to individual, hence the use of the prefix 'potentially'. However, such events are commonly thought to produce varying levels of posttraumatic stress in those who experience them, in turn possibly affecting mental and physical health.

As described earlier, data on PTEs experienced by respondents either before or during the flight from Syria was obtained through The Refugee Trauma History Checklist (RTHC).²¹ The checklist consists of eight questions about PTEs experienced either before or during flight (e.g. '*war at close quarters*' and '*physical violence or assault*'). The items are asked separately for *before* and *during* flight, meaning there is one 8-item scale for pre-migration events (before flight) and one 8-item scale for peri-migration events (during flight). Here, the two scales are combined to reflect overall exposure prior to resettlement in Norway.

Among the respondents, the most commonly reported PTEs experienced prior to resettlement in Norway were war at close quarters (96.0%) and other frightening situations (88.5%). Notably, almost 29% of respondents reported that they had experienced torture.

Graph 1 Potentially traumatic events (PTEs) experienced by respondents prior to or during flight from Syria



When comparing men to women on PTEs, there was statistical evidence that a higher percentage of men have experienced physical violence, witnessed physical violence or assault and experienced torture. While 42.6% of men had experienced *physical violence or assault*, this prevalence was lower for women at 15.7%. Men were also far more likely to report having *witnessed physical violence*, at 70.7%, in comparison with 50.5% of women. Perhaps the most striking contrasts between men and women were reports on *torture*. As shown in the graph, 34.6% of men and 18.4% of women had experienced torture, with men being almost twice as likely to have experienced this traumatic event.

When investigating the relationship between immigration status on arrival and exposure to PTEs, *loss or disappearance of family or loved ones* was experienced by a larger proportion of the quota refugees (76.2%), compared to asylum seekers (66.7%) and family reunification refugees (63.6%). The reported frequency did not differ significantly between asylum seekers and family reunification refugees.

The percentage reporting exposure to *physical violence or assault* was significantly lower among family reunification refugees (12.2%) compared to asylum seekers (37.6%) and quota refugees (33.9%). There was no significant difference in the percentage between asylum seekers and quota refugees.

The percentage who reported having experienced *torture* was substantial, but not significantly different between quota refugees and asylum seekers. However, torture was reported by a smaller proportion of family reunification refugees (14.3%) compared to asylum seekers (30.3%) and quota refugees (31.7%).

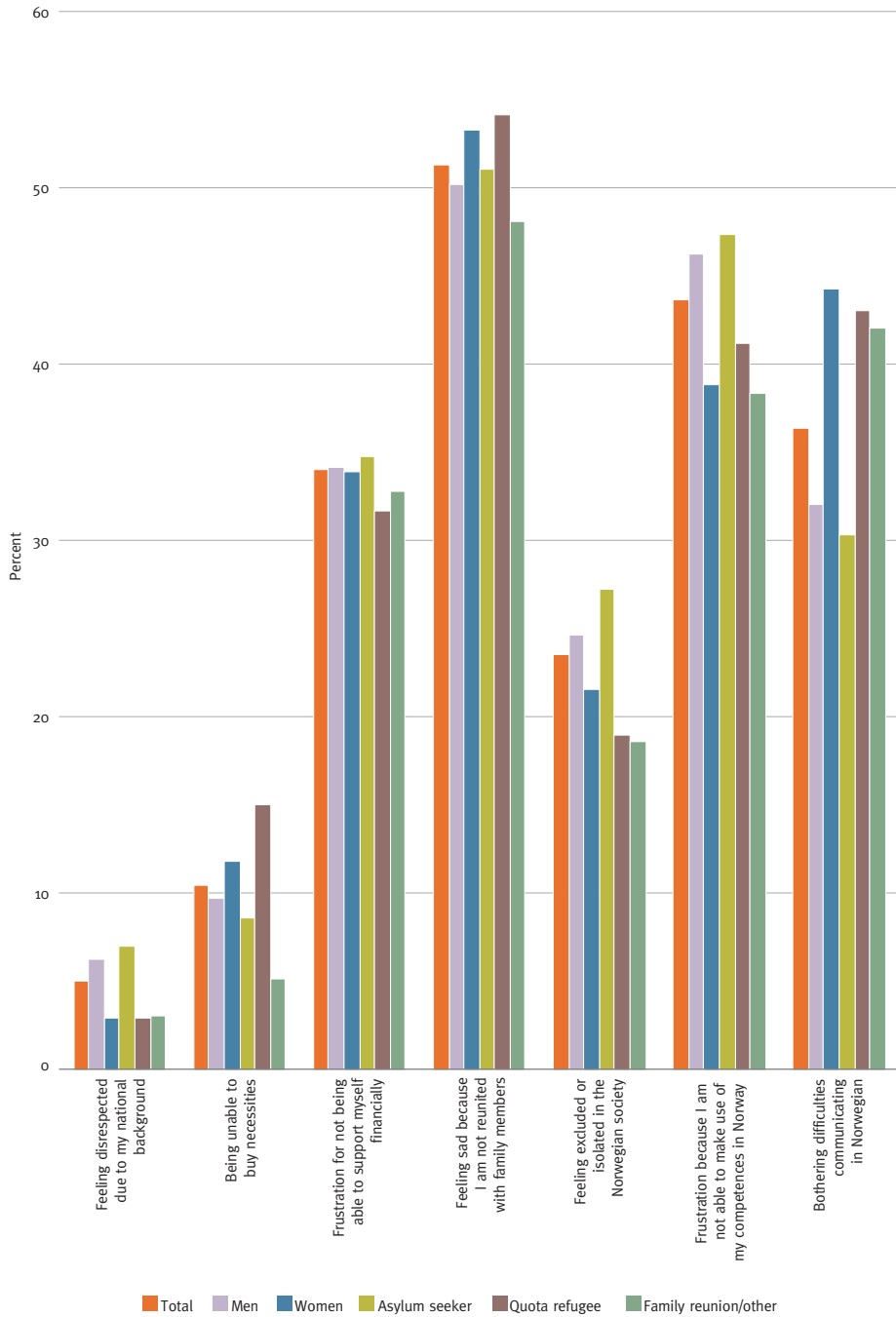
In exposure to *sexual violence*, there was no significant difference between asylum seekers and quota refugees, or between quota refugees and family reunification refugees, however the difference between asylum seekers (9.2%) and family reunification refugees (2.5%) was significant. The exposure to sexual violence, among about one in ten asylum seekers, may reflect the dangers, exploitation, and lack of protection during flight.

Post-migratory stress

Post-migratory stressors are experiences that can impose significant levels of stress during resettlement in a new country. Such events can be exemplified as, e.g., exposure to discrimination, social isolation and/or economic strain.²² How people react to these stressors vary from individual to individual, but are commonly thought to produce varying levels of negative stress that affects mental health over time.

The most common form of post-migratory stress experienced 'often/very often' by respondents in the present report was *feeling sad because I am not reunited with family members*, with 51.3% of respondents reporting having had this experience. Least common was *being unable to buy necessities* (10.5%) and *feeling disrespected due to my national background* (5.1%).

Graph 2 Post-migratory stress experienced by respondents after arrival to Norway



When investigating gender differences in post-migratory stress, there was statistical evidence that a higher percentage of men had experienced *feeling disrespected due to my national background*, with 6.3% of the men reporting this experience compared to 2.9% of the women. *Frustration because I am not able to make use of my competencies in Norway* was also more common amongst men, with 46.2% of the men reporting having experienced this ‘often/very often’ compared to 38.9% of the women. Finally, *difficulties communicating in Norwegian* was reported more frequently among women than men, with 44.3% of women reporting having had this experience ‘often/very often’ compared to 32.1% of men.

There were also significant differences in post-migratory stress between groups according to refugee status (asylum seekers, quota refugees, and family reunification refugees). A higher percentage of asylum seekers (7.0%) had experienced *feeling disrespected due to my national background* ‘often/very often’ compared to quota refugees (3.0%) and family reunification refugees (3.0%).

A smaller proportion of asylum seekers (8.6%) and family reunification refugees (5.2%) reported *being unable to buy necessities* ‘often/very often’ compared to quota refugees (15.0%). The difference between asylum seekers and family reunification refugees was not significant.

A higher percentage of asylum seekers reported ‘often/very often’ *feeling excluded or isolated in Norwegian society* (27.2%) compared to both quota refugees (18.9%) and family reunification refugees (18.7%). The difference between quota refugees and family reunification refugees was not significant.

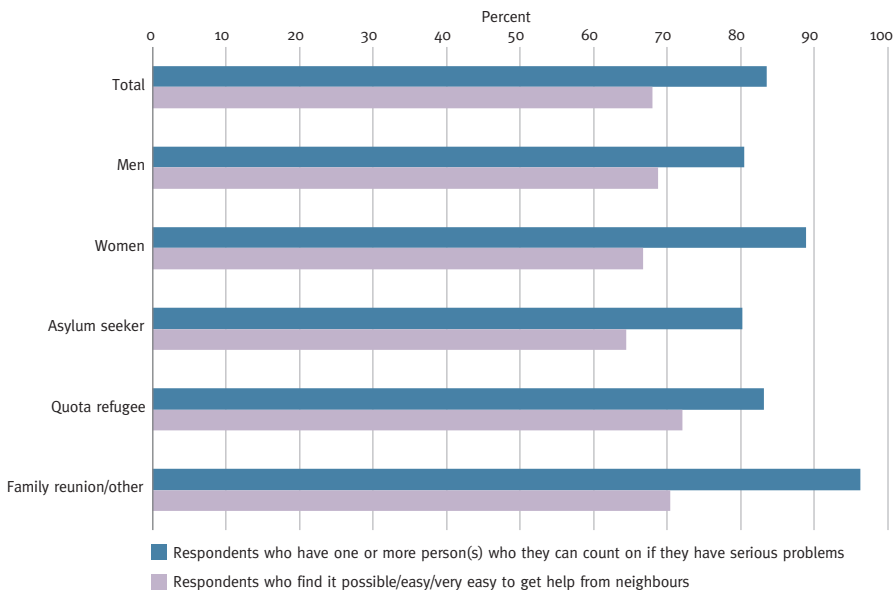
The percentage of asylum seekers reporting *difficulties communicating in Norwegian* ‘often/very often’ (30.3%) was significantly lower than the percentage of quota refugees (43.1%) and family reunification refugees (42.1%). The difference between quota and family reunification refugees was not significant.

Seen together, there are notable similarities between the quota and family reunification refugee groups. The two groups only differed in their response to *being unable to buy necessities*, perhaps reflecting similarities in policies and levels of support that these groups receive after arriving in Norway.

Social support

As stated earlier, social support was measured in this report utilising two questions commonly administered by Statistics Norway (SSB). As shown in Graph 3, 83.5% of respondents reported to have *one or more person(s) who they can count on if they have serious problems*, and 68.0% reported finding it easy to *get help from neighbours*. A larger percentage of women (88.9%) reported having *one or more person(s) who they can count on if they have serious problems*, compared to men (80.5%). A larger percentage of family reunification refugees (96.3%) reported having *one or more person(s) who they can count on if they have serious problems*, compared to both asylum seekers (80.3%) and quota refugees (83.1%), possibly reflecting the social support gained through family reunification. Finally, there were no statistically significant differences between men, women and immigrant groups (asylum seeker, quota and family reunification refugees) in terms of getting help from neighbours.

Graph 3 Level of social support reported by respondents



Mental health

As described in the introduction, a number of studies have examined mental health and quality of life within various populations of refugees following the increase in forced migration to Europe. Results, while variable, have generally shown prevalences of PTSD, anxiety and depression that are far higher than host population prevalences. In the following paragraphs, we discuss the main findings concerning mental health and mental health symptoms/problems and associations to flight-related exposure and quality of life.

As stated previously, respondents are classified as likely or unlikely to possess a mental health problem or diagnosis based on scores above or below a cut-off threshold. Research utilising this methodology to determine whether or not a diagnosis is present, has previously been shown to overestimate the prevalence of mental health disorders.³¹ When interpreting the prevalence of PTSD, anxiety and depression, it is therefore important to be mindful of the fact that these results are based on the number and severity of symptoms reported, not clinical diagnostic interviewing of respondents, and might be overestimated. So, although this is a scientifically sound and valid method of mental ill health prevalence estimation, results should be interpreted with caution.

Posttraumatic stress symptoms

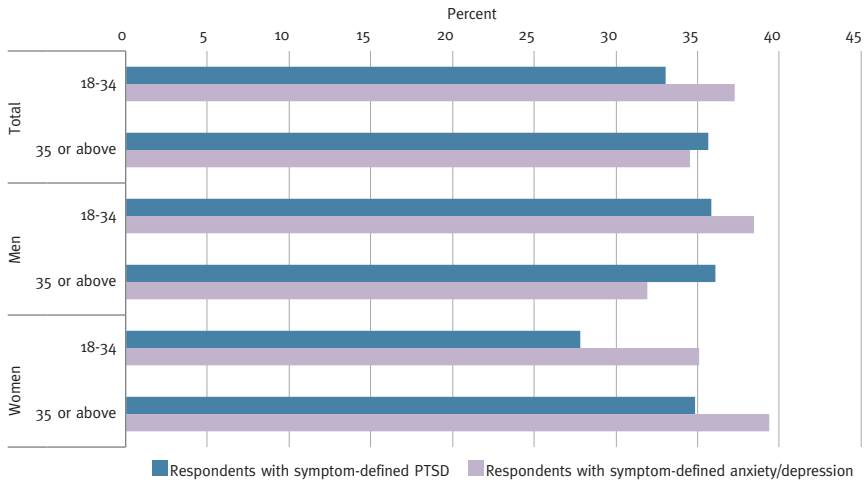
As seen in Table 5, the prevalence of symptom-defined PTSD in the sample was 34.7% in unweighted analysis, and 29.7% in weighted analysis. The unweighted prevalence level was slightly higher in men (36.0%) than women (32.3%), but this difference was not statistically significant. Although not significantly different from women, the highest prevalence of symptom-defined PTSD was found in men age 35 and over, at 36.1%, as shown in Graph 4.

Table 5 Prevalence of symptom-defined PTSD and anxiety/depression

	PTSD		Anxiety/Depression		
	<i>n</i>	Prevalence	<i>n</i>	Prevalence	
Total (n = 877), unweighted	304	34.66	Total (n = 861), unweighted	306	35.54
Total (n = 877), weighted*	304	29.70	Total (n = 861), weighted*	306	32.75
Gender					
Men (n = 564)	203	35.99	Men (n = 559)	192	34.35
Women (n = 313)	101	32.27	Women (n = 302)	114	37.75
Migratory status upon arrival					
Asylum seeker (n = 444)	163	36.71	Asylum seeker (n = 433)	165	38.11
Quota/resettlement refugee (n = 265)	83	31.32	Quota/resettlement refugee (n = 260)	83	31.92
Family reunification refugee (n = 133)	47	35.34	Family reunification refugee (n = 133)	46	34.59

* The weighted prevalence is estimated using post-stratification weights based on strata combinations of age and marital status.

Graph 4 Symptom-defined PTSD and anxiety/depression by age-group and gender



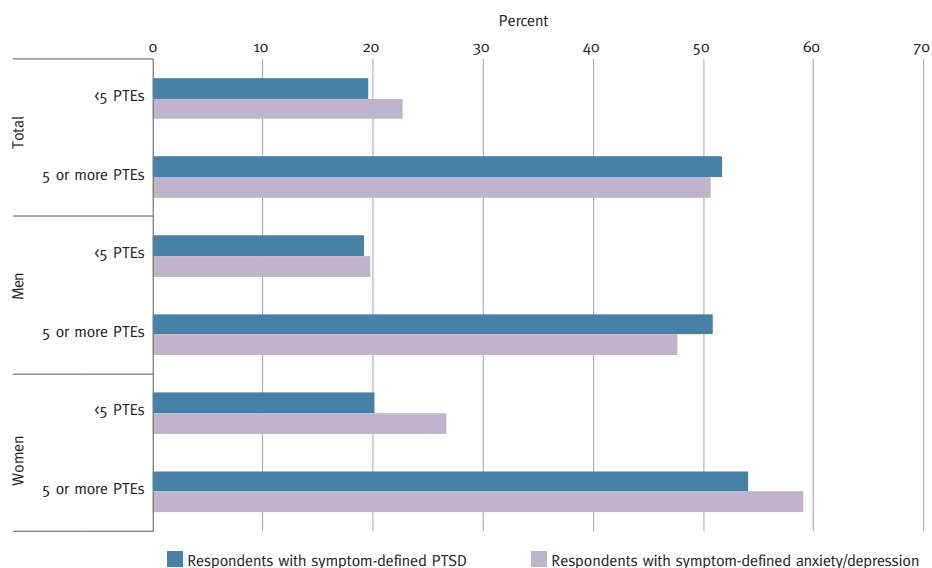
Symptoms of anxiety and depression

As seen in Table 5, the prevalence of symptom-defined anxiety/depression, as measured by the HSLC-25, was 35.5% in unweighted analysis, and 32.8% in weighted analysis. The unweighted prevalence level was slightly higher in women (37.8%) than men (34.4%), but this difference was not statistically significant. Although not significantly different from men, the highest prevalence of symptom-defined anxiety/depression was found in women age 35 and over, at 39.4%. The prevalence for men between the ages of 18 and 34 was, however, similar at 38.5%. The group with the lowest prevalence of symptom-defined anxiety/depression was older men (31.9%), as shown below in Graph 4.

Pre- and peri-migratory exposure and mental health

Graph 5 shows that the prevalence of symptom-defined PTSD was higher for respondents who reported to have experienced five or more PTEs before or during their flight from Syria (51.7%), compared to respondents who had experienced less than five PTEs (19.6%). When the total sample was split by gender as well as by ≥ 5 or < 5 PTEs, the results showed that PTSD prevalence among men was 50.8% among those having experienced ≥ 5 PTEs and 19.2% among those with < 5 PTEs. Among women, the prevalence of PTSD was 54.1% among those having experienced ≥ 5 PTEs, and 20.1% among those with < 5 PTEs.

Graph 5 Potentially traumatic events (PTEs) and mental health problems



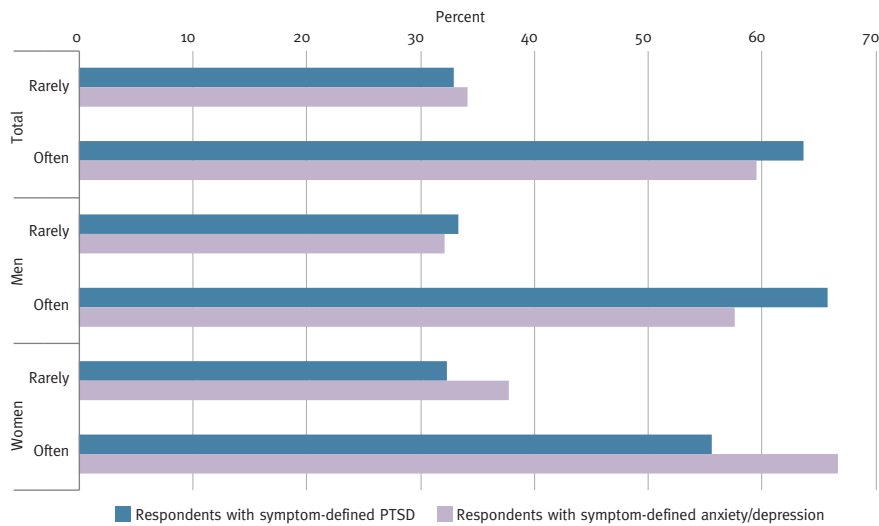
Furthermore, as shown in Graph 5, the prevalence of symptom-defined anxiety/depression was also significantly higher for refugees reporting ≥ 5 PTEs compared to refugees reporting < 5 PTEs before or during their flight from Syria. For the whole sample, the difference between respondents who reported ≥ 5 PTEs compared to respondents reporting < 5 PTEs was highly significant, with prevalence of anxiety/depression at 50.6% and 22.7%, respectively. When split by gender as well as number of PTEs, the prevalence of anxiety/depression among men reporting ≥ 5 PTEs was 47.6% and 19.8% for those reporting < 5 PTEs. Among women reporting ≥ 5 PTEs, the prevalence of anxiety/depression was 59.0%, while it was 26.7% for women reporting < 5 PTEs.

Post-migratory stress and mental health

As described earlier, post-migratory stressors are experiences that can impose significant levels of stress during resettlement in a new country. In this report, each of the seven items on the post-migratory stress scale and their relationships with symptoms of PTSD and anxiety/depression was therefore explored, both in the whole sample of respondents, and in male and female subsets.

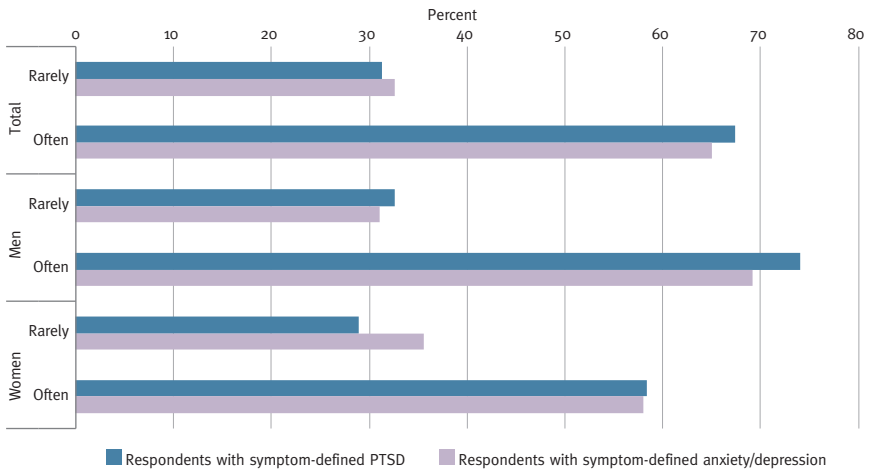
Among respondents who report ‘often/very often’ to have experienced *feeling disrespected due to my national background*, the prevalence of symptom-defined PTSD was 63.6%, and the prevalence of symptom-defined anxiety/depression was 59.5%, as shown in Graph 6. For men, who reported to have experienced this ‘often’ or ‘very often’, the prevalence was 65.7% for PTSD and 57.6% for anxiety/depression. For women, the relationship between this stressor and mental health was not significant.

Graph 6 Post-migratory stressor *feeling disrespected due to my national background* and mental health problems



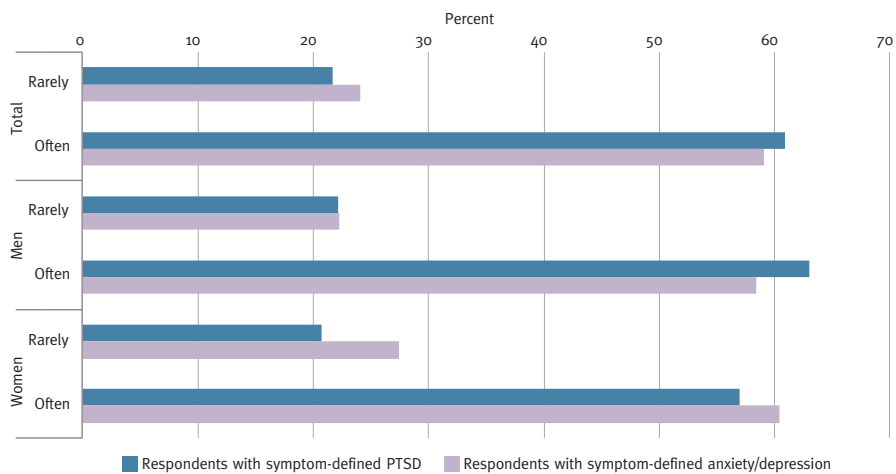
When exploring the item *being unable to buy necessities* and symptoms of PTSD and anxiety/depression, all relationships were significant, both in the total sample and for each gender. Among respondents who report ‘often/very often’ to have experienced this stressor, prevalence of symptom-defined PTSD was 67.4%, and the prevalence of symptom-defined anxiety/depression was 65.1%, as shown in Graph 7. For men who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 74% for PTSD and 69.2% for anxiety/depression. Among women who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 58.3% for PTSD and 58.1% for anxiety/depression.

Graph 7 Post-migratory stressor *being unable to buy necessities* and mental health problems



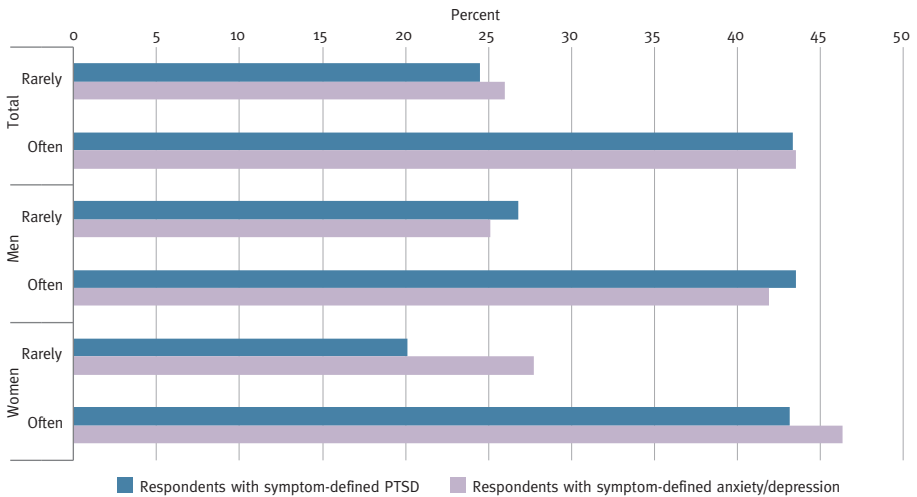
For the item *frustration for not being able to support myself financially*, all relationships were once again significant. For those who report ‘often/very often’ to have experienced this, the prevalence of symptom-defined PTSD was 60.9%, and the prevalence of symptom-defined anxiety/depression was 59.1%, as shown in Graph 8. For men who answered ‘often/very often’, prevalences were 63% for PTSD and 58.4% for anxiety/depression, and prevalences amongst women who answered ‘often/very often’ were 57% for PTSD and 60.4% for anxiety/depression.

Graph 8 Post-migratory stressor *frustration for not being able to support myself financially* and mental health problems



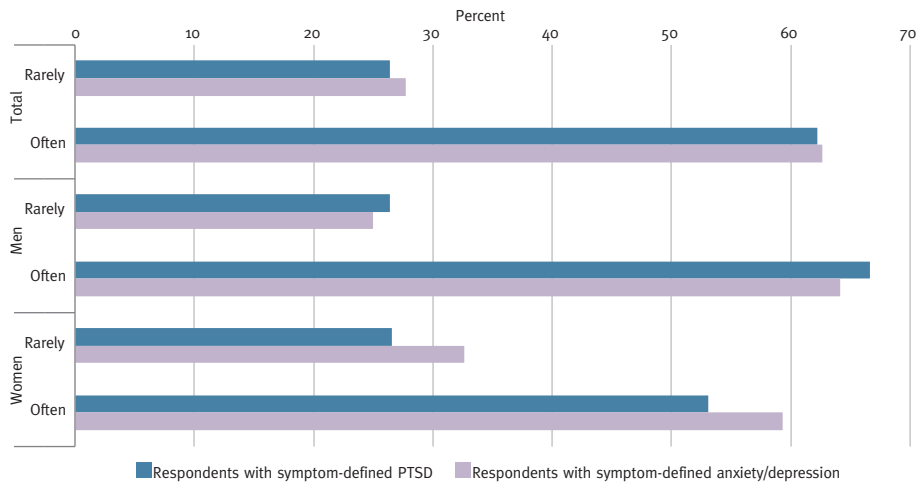
For the item *feeling sad because I am not reunited with family members*, all relationships with symptoms of PTSD and anxiety/depression were significant for both genders and the overall sample. Among respondents who report ‘often/very often’ to have experienced this item, prevalence of symptom-defined PTSD was 43.4%, and the prevalence of symptom-defined anxiety/depression was 43.6%, as shown in Graph 9. For men who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 43.5% for PTSD and 41.9% for anxiety/depression. Among women who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 43.1% for PTSD and 46.4% for anxiety/depression.

Graph 9 Post-migratory stressor *feeling sad because I am not reunited with family members* and mental health problems



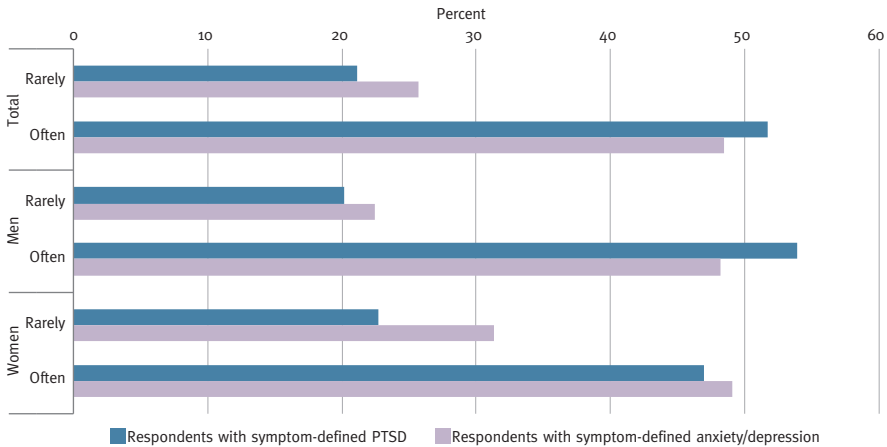
For the item *feeling excluded or isolated in the Norwegian society*, all relationships with symptoms of PTSD and anxiety/depression were significant for both genders and the overall sample. Among respondents who report ‘often/very often’ to have experienced *feeling excluded or isolated in the Norwegian society*, the prevalence of symptom-defined PTSD was 62.2%, and the prevalence of symptom-defined anxiety/depression was 62.6%. For men, who reported to have experienced this ‘often’ or ‘very often’, the prevalence was 66.7% for PTSD and 64.1% for anxiety/depression, and for women, prevalences were 53.1% for PTSD and 59.3% for anxiety/depression, as shown in Graph 10.

Graph 10 Post-migratory stressor *feeling excluded or isolated in the Norwegian society* and mental health problems



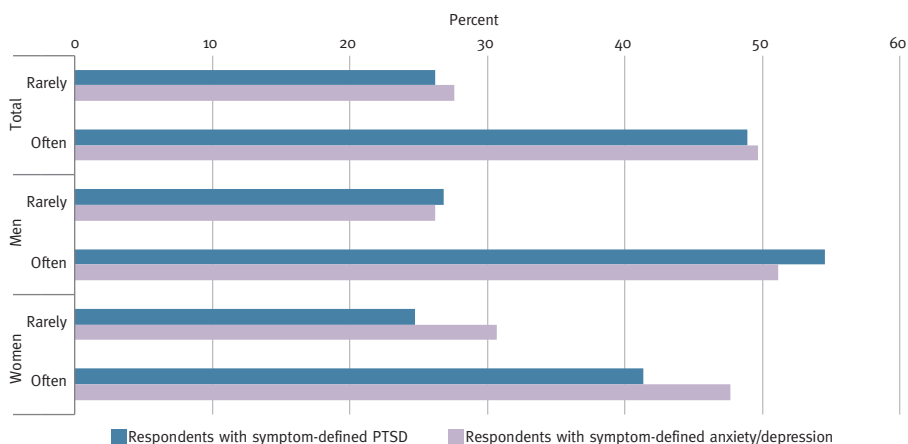
For the item *frustration because I am not able to make use of my competencies in Norway*, all relationships with symptoms of PTSD and anxiety/depression were significant for both genders and the overall sample. Among respondents who report ‘often/very often’ to have experienced this stressor, prevalence of symptom-defined PTSD was 51.7%, and the prevalence of symptom-defined anxiety/depression was 48.5%, as shown in Graph 11. For men who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 53.9% for PTSD and 48.2% for anxiety/depression. Among women who reported to have experienced this stressor ‘often’ or ‘very often’, the prevalence was 47% for PTSD and 49.1% for anxiety/depression.

Graph 11 Post-migratory stressor *frustration because I am not able to make use of my competencies in Norway* and mental health problems



Among respondents who report ‘often/very often’ to have experienced *difficulties communicating in Norwegian*, all relationships with symptoms of PTSD and depression/anxiety were significant. In the sample, the prevalence of symptom-defined PTSD was 48.9%, and the prevalence of symptom-defined anxiety/depression was 49.7%, as shown in Graph 12. For men, who reported to have experienced this ‘often’ or ‘very often’, the prevalence was 54.5% for PTSD and 51.1% for anxiety/depression, and for women, prevalences were 41.4% for PTSD and 47.7% for anxiety/depression.

Graph 12 Post-migratory stressor *difficulties communicating in Norwegian* and mental health problems



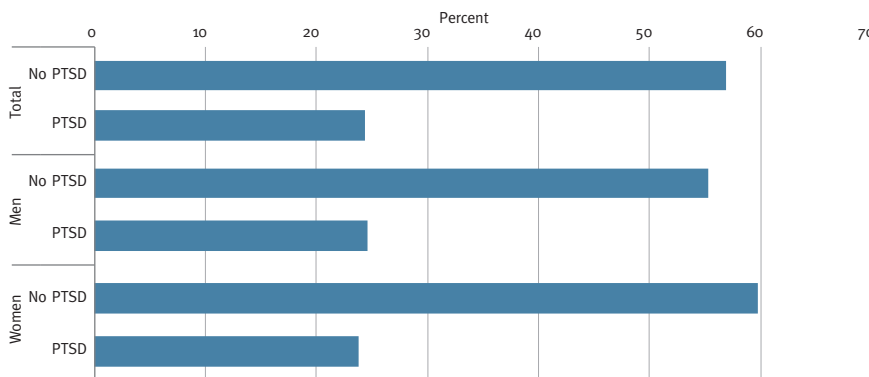
Quality of life and mental health

As described earlier, the construct of quality of life is sometimes referred to as the missing measurement in health research, due to the fact that it measures how the respondents subjectively perceive their quality of life, going beyond the more commonly measured symptoms of mental or physical health. In this report, we investigate refugees' physical and psychological satisfaction with life, by utilizing two overarching questions from the Quality of Life scale (WHOQOL-BREF).

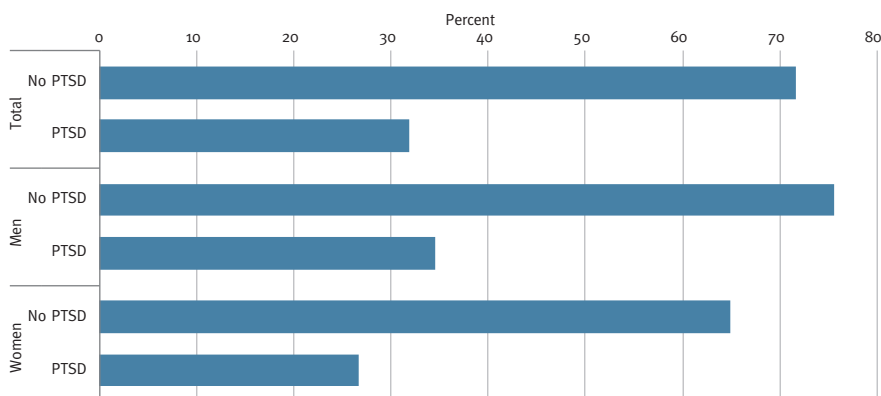
Within the population studied here, 45.4% of respondents reported good or very good quality of life, while 57.3% reported that they were satisfied or very satisfied with their health. However, when genders were compared on these measures, the results showed that women were more satisfied than men with their quality of life (47.3% and 44.3% respectively) whilst men were more satisfied than women with their health (60.1% and 52.2% respectively). Only the latter comparison was significant.

As expected, both self-reported quality of life and health satisfaction were associated with PTSD symptoms. Among those who were above the cut-off for symptom-defined PTSD, only 24.3% reported good or very good quality of life, whereas for those without PTSD symptoms above the cut-off, 56.9% reported good or very good overall quality of life, as shown in Graph 13. Similarly, among those who were above the cut-off for symptom-defined PTSD, only 31.9% reported to be satisfied or very satisfied with their health, whereas for those without PTSD symptoms above cut-off, 71.7% reported to be satisfied or very satisfied with their health, as shown in Graph 14.

Graph 13 Respondents with good or very good self-reported quality of life stratified by symptom-defined PTSD status

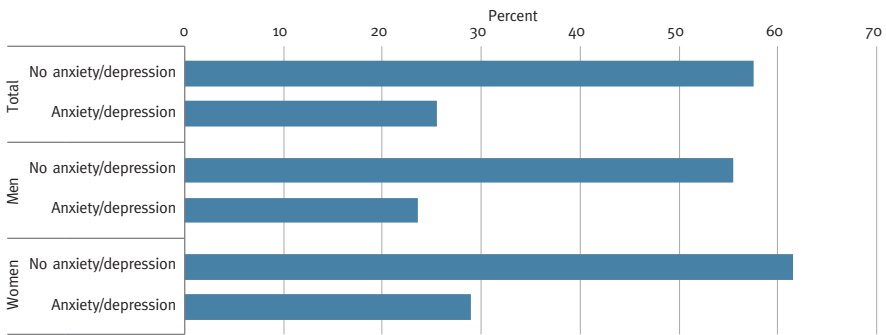


Graph 14 Respondents who are satisfied or very satisfied with their health stratified by symptom-defined PTSD status

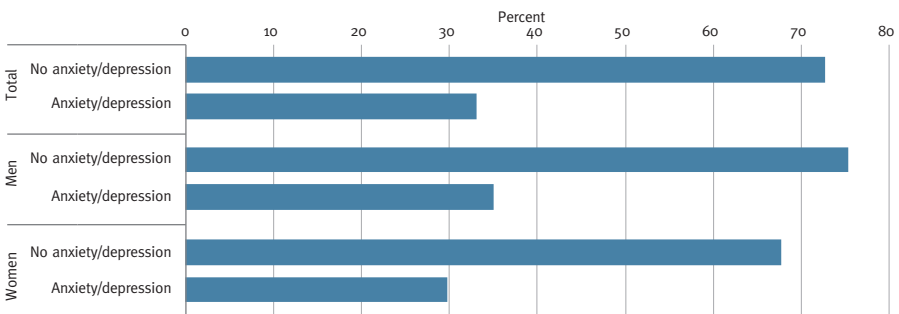


As expected, both self-reported quality of life and health satisfaction were also associated with anxiety and depression symptoms. Among those who were above the cut-off for symptom-defined anxiety/depression, only 25.6% reported good or very good quality of life, whereas for those without anxiety and depression symptoms above the cut-off, 57.5% reported good or very good overall quality of life, as shown in Graph 15. Similarly, among those who were above the cut-off for symptom-defined anxiety/depression, only 33.1% reported to be satisfied or very satisfied with their health, whereas for those without anxiety and depression symptoms above the cut-off, 72.8% reported to be satisfied or very satisfied with their health, as shown in Graph 16.

Graph 15 Respondents with good or very good self-reported quality of life stratified by symptom-defined anxiety/depression status



Graph 16 Respondents who are satisfied or very satisfied with their health stratified by symptom-defined anxiety/depression status



Discussion of main findings

As the Syrian war enters its tenth year, nearly 50% of the Syrian population has been forcibly displaced as a direct result of the conflict.³² During recent years, a small proportion of these refugees and asylum seekers have reached Norway in order to seek protection. In the peak year of 2015, approximately 10,500 Syrians applied for asylum in Norway, according to the Norwegian Directorate of Immigration (UDI). As of March 2020, 31,952 immigrants and 4,074 second-generation immigrants from Syria were registered in Norway,³³ in sum constituting the seventh largest immigrant group in Norway. In this report, we receive the first glimpse of the psychosocial situation of newly resettled refugees within this population in Norway.

Substantial exposure to potentially traumatic experiences before and during flight

The most commonly reported, potentially traumatic experiences were *war at close quarters* and *other frightening situations* prior to or during respondents' flight to Norway. This finding mirrors findings from Sweden focusing on refugees from Syria, which also reported these events as the most common potentially traumatic experiences.²⁵ As such, the findings in the present report add corroborating evidence for substantial exposure within refugee populations from Syria, with approximately 96% of respondents reporting having experienced *war at close quarters*, 69% reporting *loss or disappearance of family members or loved ones* and nearly 29% having *experienced torture*.

Heightened levels of mental health problems

Previous research has demonstrated a strong link between pre-migratory stressors and mental health disorders in refugee and asylum-seeker populations after resettlement in a new host country. Not surprisingly, the findings in this report also revealed similar associations between mental health problems and exposure to potentially traumatic events that occurred before or during respondents' flight to Norway. Overall, our results show a high prevalence of mental health problems, with weighted prevalence estimates for both symptom-defined PTSD and anxiety/depression of approximately 30 percent. These prevalences contrast to the prevalences in the Norwegian population as a whole, where e.g. the estimated twelve-month PTSD prevalence is 1.7% among women

and 1.0% among men, and lifetime prevalence for women is 4.3% and 1.4% for men.³⁴

The prevalence of symptom-defined PTSD was significantly higher for refugees reporting to have experienced five or more potentially traumatic events before or during their flight from Syria (prevalence = 51.7%), compared to refugees reporting to have experienced less than five such events (prevalence = 19.6%). Similarly, the prevalence of symptom-defined anxiety/depression was also significantly higher (50.6%) for refugees reporting to have experienced five or more potentially traumatic events before or during their flight from Syria, compared to refugees reporting to have experienced less than five such events (22.7%).

In sum, these findings suggest an overall high prevalence of mental health problems within the sampled population. However, it is important to keep in mind the previously issued caveat, encouraging the use of caution when interpreting these results. Respondents are classified as likely or unlikely to qualify for a symptom-defined diagnosis based on the number and severity of the symptoms reported, not based on a clinical, diagnostic interview. While acknowledging the severity of the findings, demonstrating the suffering of many refugees, it is important to be mindful of the fact that the prevalences reported might be overestimated or caused by other, comorbid and non-psychiatric conditions. In sum, this calls for the use of caution when interpreting or referencing these results elsewhere.

Substantial exposure to post-migratory stress

The most common form of post-migratory stress experienced ‘often/very often’ by respondents was *feeling sad because I am not reunited with family members*, with more than half the respondents reporting having had this experience. It is also worth noting that 43.7% of respondents reported *frustration because I am not able to make use of my competences in Norway* and that 36.4% reported *difficulties communicating in Norwegian* ‘often/very often’. Least common was *feeling excluded or isolated in the Norwegian society* (23.6%) and *feeling disrespected due to my national background* with only 5% of the respondents reporting having had this experience ‘often/very often’.

There were significant differences in post-migratory stress between groups according to refugee status (asylum seeker, quota refugee, or family reunification refugee). *Feeling disrespected due to my national background* was significantly

more common for asylum seekers than for quota refugees, with a larger proportion of asylum seekers reporting having had this experience. Asylum seekers also reported ‘often/very often’ *feeling excluded or isolated in Norwegian society* to a larger degree than both quota refugees and family reunification refugees.

Post-migratory stressors and mental health problems

Despite the growing recognition of the impact of post-resettlement factors on the mental health of refugees, few studies have investigated this link within a Norwegian context. Previous research from Sweden has shown clear associations between mental health disorders and post-migratory stress, with stressors ‘often felt disrespected due to my national background’ and ‘often felt excluded or isolated in the Swedish society’ emerging as the strongest indicators for PTSD.^{15,22}

Similarly, among respondents in this study who reported ‘often/very often’ to have experienced *feeling disrespected due to my national background*, the prevalence of symptom-defined PTSD was 63.6%, and the prevalence of symptom-defined anxiety/depression was 59.5%, indicating heightened levels of mental health problems related to this stressor. Similarly, among respondents who reported ‘often/very often’ to have experienced *feeling excluded or isolated in the Norwegian society*, the prevalence of symptom-defined PTSD was 62.2%, and the prevalence of symptom-defined anxiety/depression was 62.6%. In other words, although only 23.6% of the respondents reported *feeling excluded or isolated in Norwegian society*, and the least common stressor was *feeling disrespected due to my national background*, it is worth noting that that these post-migratory stressors, when experienced, appear to have deleterious effects on refugees’ mental health.

Among respondents who reported *being unable to buy necessities* ‘often/very often’, prevalence of symptom-defined PTSD was 67.4%, and the prevalence of symptom-defined anxiety/depression was 65.1%. In a similar vein, *frustration for not being able to support myself financially*, was also linked to mental health problems. Among those who reported ‘often/very often’ to have experienced this stressor, the prevalence of symptom-defined PTSD was 60.9%, and the prevalence of symptom-defined anxiety/depression was 59.1%.

Among respondents who reported to ‘often/very often’ have experienced *frustration because I am not able to make use of my competencies in Norway*,

prevalence of symptom-defined PTSD was 51.7%, and the prevalence of symptom-defined anxiety/depression was 48.5%. Finally, among respondents who report 'often/very often' to have experienced *difficulties communicating in Norwegian*, the prevalence of symptom-defined PTSD was 48.9%, and the prevalence of symptom-defined anxiety/depression was 49.7%.

In sum, among the seven post-migratory stressors, the stressors embedded in societal, socioeconomic structures seem to be more strongly related to mental health problems than stressors related to family and home country concerns within the studied population.

Quality of life and Social support

As described earlier, the World Health Organization (WHO) defines quality of life as '*individuals' perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns*'.² In this report, approximately half of the respondents (45.4%) reported good or very good quality of life, and more than half (57.3%) reported that they were satisfied or very satisfied with their health. These percentages contrast slightly with results from a 2004 multi-country field survey among rich and poor, healthy and sick people in countries from all parts of the world, where 53.5% of respondents reported good or very good quality of life, and 50.4% of respondents reported good or very good general health.²⁹

Still, more than 80% of respondents in the present study reported to have *one or more person(s) who they can count on if they have serious problems*, and 68% reported finding it easy to *get help from neighbours*. This level of social support could possibly attenuate the relationship between exposure to potentially traumatic events and mental health problems.³⁵ The association between social support and mental health is well established and in a review by Charuvastra and Cloitre (2008),³⁶ the authors conclude that social support is a consistent predictor of PTSD, with high levels of social support functioning as a protective factor against PTSD and low levels of social support emerging as a risk factor. The link between low levels of social support and increased risk for depression has also been widely studied and supported.³⁷

Implications

In sum, findings in this report suggest that several pre-, peri- and post-migratory stressors protrude as consistent indicators of mental health problems and reduced quality of life among respondents following their arrival in Norway. Mental health problems were found to be prevalent in our sample, although approximately half of the respondents reported a high quality of life. As of now, these findings are the most representative findings available in Norway for refugees from Syria.

The findings presented in this report reveal a need for actions that can alleviate symptoms, improve quality of life, and prevent further mental health deterioration among refugees exposed to many pre-, peri- and post-migratory stressors. Most importantly, several post-migratory stressors such as *'being unable to buy necessities'*, *'feeling excluded or isolated in the Norwegian society'*, *'frustration for not being able to support myself financially'* and/or *'frustration because I am not able to make use of my competencies in Norway'* are linked to societal and socioeconomic structures in the Norwegian context that we, as a host country, can change or improve. Measures aimed at reducing the number, extent and severity of post-migratory stressful experiences can therefore, to a large extent, be handled at the societal and political level.

Good mental health can be seen as a prerequisite for both social and work participation, and as an antidote for social exclusion. Hence, the goal should be that refugees, who have been granted residency, should be given the opportunity to fully participate, and thus be integrated, in the Norwegian society through scientifically proven interventions.

Strengths and limitations

The REFUGE study has several important strengths compared to previous research, both in terms of sound methodology, improved representativeness, and the value of the data gathered. Firstly, the study population was randomly selected among 14,350 individuals who met the study's eligibility criteria in the database of the Norwegian National Registry, with a large 'n' of 902 respondents comprising the final sample. This is an important strength. Previously, challenges related to reaching this 'hard to reach' population has led to the widespread use of convenience sampling (e.g. in mental health clinics), which in turn has decreased the generalisability of findings.

In general, low response rates plague the research field, and are particularly common in refugee-focused research. Still, we aimed to work around the problem of low response rates through extensive recruitment efforts. As noted previously, methods to boost recruitment involved the utilisation of contacts within the community, dedicated Facebook and web pages in Arabic, Q&A sessions held at adult education centres in Norway's major cities, as well as the dissemination of information about the project online through purpose-built, animated videos and newsletters. Despite these efforts, the participation rate for REFUGE I was just above 10%. The low response rate remains a potential weakness of REFUGE I that could lead to selection bias, though overall prevalence estimates for symptom-defined PTSD and anxiety/depression have been weighted in an attempt to reduce bias in estimates caused by non-response.

However, the sample size is still relatively large, and even with a low response rate, the study sample has strengths regarding representativeness. As can be seen from Table 2, the distribution in terms of gender among respondents in this study is similar to the source and sample populations, though the proportion of young and unmarried refugees are notably smaller in the participating group. Table 3 also shows that the geographical distribution across Norway's 18 counties was very similar for the respondents and the sample population. Additionally, in terms of residency status, respondents had the same proportional breakdown as the sample population: 95% had temporary residency in Norway at the time of the survey and 5% had permanent residency (result not shown in tables).

Review articles on refugee mental health frequently highlight the large degree of variance in terms of methods used, and call for increased focus on methodological issues. A strength of the current study is that key variables are measured using well-documented and validated scales. However, short-form questionnaires, while efficient, do not capture all aspects of the measured constructs. The questionnaires used to measure PTSD, anxiety and depression have been validated for use within the studied population, but despite this, recent studies have suggested that when self-report measures are used, the resulting prevalences tend to be higher than when using diagnostic interviews.^{38,39} The use of self-report symptom checklists in our study, rather than diagnostic interviewing, however, did allow many more respondents to be reached, improving the generalisability of our findings. Still, the survey design used to attain prevalences of anxiety/depression and PTSD symptoms represents

a limitation of the present study. Mental health measures or scales, such as those presented in this report to assess symptoms of PTSD, anxiety and depression, do not investigate other comorbid, non-psychiatric conditions that may produce similar symptoms.³⁸ When interpreting the prevalence of symptom-defined PTSD and anxiety/depression, we were therefore mindful of the fact that these results are based on the number and severity of symptoms reported, not clinical diagnostic interviewing of respondents, and might be overestimated. So, although the REFUGE study utilised a scientifically sound and valid method of mental health problem prevalence estimation, results presented under the mental health heading, should be interpreted with caution.

Finally, it is important to keep in mind the cross-sectional nature of the study. Cross-sectional studies, although valid in their form, cannot be used to analyse behaviour over time and therefore cannot determine cause and effect/causal direction of findings. In other words, the casual direction between e.g. post-migratory stress and mental health implied in this report is based on previous findings in the literature and a theoretical rationale, but cannot be fully established. In future publications this problem will be addressed, utilising a longitudinal design.

Future plans

The REFUGE study will, as part of its first aim, conduct a second wave of data collection in 2021. A third wave of data collection is planned for 2022, pending further funding. Furthermore, we plan to link questionnaire data to Norwegian registry data after all three waves of data collection have been completed. Registry data will be obtained for time periods both prior to and after the three-wave survey. Finally, a qualitative study, linked to the quantitative data, will be conducted. The use of a three-wave longitudinal survey design will allow for better exploration of cause-effect relationships between variables in the study, than purely cross-sectional data. In addition, research on the association between refugee mental health and facets of integration is scarce. By linking longitudinal questionnaire data to registry data on education, work and health-related parameters, the study could make important contributions to the base of evidence on this topic in the future. Also, combining self-report data with registry data from well-established national registries and qualitative data may reduce common method bias.

A second aim is to extend the REFUGE study beyond Norway's borders, through collaboration between the REFUGE study group in Norway and partner institutions in Sweden and the United Kingdom, forming the REFUGE consortium. This work, pending ethics approval, will include setting up and servicing a shared database that utilises the research potential that lies within the existing datasets in Norway and Sweden ($N > 4,500$) and potential data sources in other countries. The close collaboration between the REFUGE study group in Norway and its main collaborating partner, the Red Cross University College in Sweden, will offer ample opportunities to compare Syrian refugee populations in two different countries, as both projects use similar measures and have agreed to collaborate on and combine datasets.

A third, long-term goal is to expand the REFUGE database by encouraging researchers in other countries to complete similar, nation-wide data-collections that can complement the already existing data. In turn, given the extensive number of included respondents, the REFUGE database will have ample opportunities to provide unique cross-country, intersectional, comparative analyses that can provide robust explanatory models of refugees' health and social outcomes. In turn, findings will be utilised to inform social policy and practice within each participating country.

Detailed plans for analyses involving registry data in the study will be registered at ClinicalTrials.gov prior to obtaining the registry data, so that true hypothesis-testing studies from the REFUGE cohort are distinguishable from more exploratory and data-driven studies. Parallel to completing the survey data collection, data-merging and registry data obtainment, we aim to publish papers in accordance with our pre-registered publication plan at ClinicalTrials.gov.

Collaboration

The REFUGE study group welcomes potential collaboration with other research groups. Interested researchers should contact the REFUGE research group for collaboration and knowledge-sharing. Locally collected data can then be added to the REFUGE database. Reference estimates (e.g., prevalence, incidence and associations) can then be continuously updated and made available to researchers abiding by the EU's GDPR laws and regulations. In addition, the REFUGE database will also include data obtained through Scandinavian social and health registries.

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As of today, an estimated 25 million refugees and asylum seekers have been forced to flee their homes globally. During the writing of this report, warring parties in the Syrian conflict continue fighting and human rights violations continue. Currently, more than 3.6 million Syrian refugees receive temporary protection in Turkey and approximately 2 million have fled to neighbouring countries Lebanon and Jordan. A substantial number of refugees from Syria were also resettled in Norway during the period 2015-2018.

This report describes the main findings from the first wave of the REFUGE study, a nation-wide survey of mental health and quality of life among refugees from Syria resettled in Norway. It is well documented that exposure to traumatic events prior to or during flight can have detrimental effects on mental health. The main aim of the REFUGE study was to investigate how integration is affected by mental health in the years following resettlement.

The study encompasses a longitudinal, three-wave questionnaire-based survey, a qualitative interview-based survey and data from Norwegian population-based registries. In this first report, we present the main findings from the initial quantitative data collection wave in Norway.



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