Abstract

Introduction: The COVID-19 pandemic has an amplified impact on vulnerable populations. Also, aspects related to health inequalities are insufficiently taught in higher education. This study aims to promote reflection in nursing students on the impact of the COVID-19 pandemic on vulnerable populations affected by health inequities.

Methodology: A photovoice method was used. Undergraduate nursing students (Spain and United Kingdom) took and explained photographs using SHOWED models.

Results: 108 students participated. Two-domain summary themes were created: The COVID-19 pandemic has impacted ethnic minorities and socioeconomically vulnerable groups, and Proposals to respond to the negative impact on ethnic minorities and socioeconomically vulnerable groups.

Discussion: The students identified negative health scenarios by linking COVID-19 with aspects of work, salary, and housing of these two specific populations. Holistic actions were also proposed to protect their health. As future health professionals, they must recognise these communities and work to eliminate inequalities.

Keywords
Coronavirus; Ethnic Groups; Qualitative Research; Socioeconomic Factors; Students, Nursing; Vulnerable Populations.

Introduction

The COVID-19 pandemic continues to affect the health and well-being of people across the globe, having an amplified impact on vulnerable populations (United Nations, 2020; World Health Organisation, 2021a). Vulnerable people are those whose individual characteristics and environments (e.g. age or where they live) make them less able to stay healthy (Bamba et al., 2020). Thus, some individual attributes have been found to correlate
with an increase in the incidence of coronavirus in different geographical areas (Gashaw et al., 2021). For example, some Black, Latino, or immigrant communities in the United States (Dorn et al., 2020), Spain (Amengual-Moreno et al., 2020) or in the United Kingdom (Campos-Matos et al., 2020) have been more exposed to the virus. These groups might also be more susceptible to severe coronavirus complications due to pre-existing chronic diseases, which are also aligned with broader determinants of health (Dugravot et al., 2020). The impact of COVID-19 is not just related to virus infection and mortality but also in terms of the social and health consequences of the policy responses undertaken. Thus, lockdowns are also likely to have unequal health effects, for example, due to job and income loss, business closures or reduced access to healthcare services (Burström & Tao, 2020).

Future nurses must recognise one's cultural values, beliefs and practices about vulnerable populations and eradicate avoidable inequalities related to ethnicity, gender, race, or socioeconomic position, among others (International Council Nursing, 2021). However, the literature suggests that aspects related to social determinants of health and social justice are insufficiently taught in undergraduate health and social education, specifically in nursing programmes (Demirtas et al., 2021; Habibzadeh et al., 2021). This pandemic presents a learning opportunity to promote nursing students' critical thinking (Riegel et al., 2021) and help them become more aware of the consequences of social inequalities of health (World Health Organization, 2021b). Other authors explore undergraduate students' views on the impact of the COVID-19 pandemic on people's lives (di Napoli et al., 2021; Domaradzki & Walkowiak, 2021). However, no research has studied the reflection of undergraduate nursing students about how the virus influence those at a higher risk of suffering its wider consequences while considering social determinants of health. Therefore, this study aims to promote reflection in nursing students on the impact of the COVID-19 pandemic on vulnerable populations affected by health inequities.
Methods

Study Design

A photovoice qualitative method was used. Photovoice underpinnings, based on feminist theory and empowerment education, is a process, based on Participation Action Research (PAR) (Abma et al., 2019) by which people can identify, represent, and enhance their community through a specific photographic technique (Wang & Burris, 1994; 1997). Using photovoice, facilitates the ability to observe disadvantaged populations in their everyday realities, taking photographs to discuss the meanings behind those images, to promote social action (Hess et al., 2021; Musoke et al., 2014; Watchman et al., 2020). In university academic context, Photovoice method has been used, not as PAR as well, but a way of exploring the reality of others and promoting critical thinking in students (Andina-Diaz, 2020; Solano-Ruiz et al., 2021). To reach the aim of this research, an educational activity was proposed, using and adapting three of the phases of photovoice method, proposed by Wang and Burriss (1997): (i) Involving students in documenting their community needs and concerns with their photographs and narratives; (ii) Engaging participants in a reflective process, where they critically discuss and analyse their communities; ans (iii) Disseminating participant-generated results with the community in a photography exhibition.

Participants and Settings

Participants were undergraduate nursing students from Spain and the United Kingdom (UK). Students enrolled in the modules of Health Cooperation and Humanitarian Aid Projects (4th year, University of León, Spain), Culture of Care, Development Education and Critical Thinking (4th year, University of Alicante, Spain), and Global and Public Health (1st year, University of Southampton, UK) (academic year 2020-21). They were selected for inclusion using convenience sampling, among all the students enrolled in the corresponding modules of their degrees (Elfil & Negida, 2017).
Data Collection

Data were collected independently at the three universities (University of León and University of Alicante: December 2020-January 2021-May 2021, University of Southampton: March 2021). In a first session, a theoretical introduction to health inequalities, the activity's objectives, the work to be carried out and photovoice were explained to the students. In a second session, students visited their communities to photograph how COVID-19 affected these vulnerable groups' lives (photo-documentation). Each student had to take three photographs and describe them using the SHOWED model. SHOWED model is a structural guide to promote a problem-posing group discussion, specific to Photovoice, that is composed by six questions: (i) what do you See, (ii) what is really Happening, (iii) how does this relate to Our lives, (iv) Why are things this way? Why does this happen, (v) how could this image Educate/empower people, (vi) what can we Do about it? (supplementary information 1) (Wallerstein & Bernstein, 1988). In a third session (classroom/video conferencing), the students, assisted by their photographs and narratives (SHOWED model), discussed the impact of the virus and proposed solutions aimed at protecting these vulnerable groups (photo-elicitation). The facilitators (two from each university) provided guidance and support, took field notes to complement the inductive analytical process and recorded the students' reflections. Finally, the more relevant photographs were selected and exhibited for a month at the faculty/virtual space (photography exhibition) to induce critical debate in the university community.

Data Analysis

The data from the narratives (SHOWED models), photographs and field notes were analysed using framework thematic analysis to identify patterns within the data (Ritchie & Spencer, 1994). This type of thematic analysis, developed in the context of conducting applied qualitative research, in areas of social and public policy, undertaken on central or
local government, voluntary organizations, universities, or other public bodies, involves a well-defined procedure of the analysis of content summaries. It consisted of different phases:

1. Familiarisation: all the researchers became familiar with the data.

2. Initial topic identification and indexing: the researchers (EAD and NSF) independently applied codes to the same two preliminary SHOWED models and shaped them into broader categories. Some preliminary analysis data (with a brief report) was shared with one of the students' groups (León) to establish feedback. Then, these two researchers met to discuss codes, wider categories and create an initial coding framework, which was applied to all the information.

3. Charting: a matrix was created for each category by abstracting, summarising and charting data.

4. Mapping and interpretation: EAD and NSF discussed the analysis and the framework. The framework was rearranged during the analysis phase as part of the inductive process. The final framework was established through consensus by all the researchers of the article.

In addition to the previous steps where rigour and trustworthiness can be assessed, authors' heterogeneity (professional background, previous experience with qualitative analysis, age, gender, culture) was used as a resource to better understand the content and meaning of the narratives and photographs from the two different countries. The COREQ checklist was utilised to check the quality of the results and guide the writing process (supplementary information 2). A qualitative data-management package (MAXQDA2020®) was used to order the process of analysis.

**Ethical Considerations**

The students were informed that participation was voluntary, and they could refuse or drop without negative consequences. They received a participant information sheet
beforehand and completed a consent form. Also, the ethical aspects of data collection were explained. For example, the members from the public that appeared in photos had to be informed, receive a participant information sheet and sign a public consent form. No personally identifiable information was allowed to be captured (e.g. street names, faces or name badges). The facilitators stressed the importance of being mindful of personal safety and adhering to the COVID-19 regulations. Regarding the Data, testimonies from León students were codified by L and a number (e.g.: L1), Alicante students, by A (e.g.: A1) and Southampton students, by S (e.g.: S1).

The Ethics Committees of the three universities approved the study under the references ULE-039-2020 (University of León), UA-2020-12-04 (University of Alicante) and ERGO number 62375 (University of Southampton).

**Results**

One hundred and eight nursing students participated in the study (92% of participants were 18-24 years old, and 83% were female) (Table 1). Two domain summary themes and four sub-themes were identified from the data (supplementary information 3).

**The COVID-19 Pandemic Has Impacted Ethnic Minorities And Socioeconomically Vulnerable Groups**

Students described how the pandemic and its wider consequences affected ethnic minorities and socioeconomically vulnerable groups' health and well-being considering social determinants of health. Working life, income and its consequences, as well as Housing conditions would be pointed as important.

**Working Life, Income And Its Consequences**

Some employment statuses were modified, and some people lost their positions, impacting their health. Photographs with new advertisements of people looking for work were portrayed, like the following photo taken in Alicante for student A18 (Fig.1). The
students identified types of jobs (e.g. the informal sector or temporary employment) and 
small retail, hospitality workers, merchants, musicians and fairground workers as groups that 
may become vulnerable and be at high risk of economic shock with corresponding 
implications. For example, student L42 explained the impact and the consequences of closing 
a pub:

Many establishments like this closed because of the measures established by the 
government to stop the pandemic’s progress. Many families that depended on the 
hospitality industry have seen worsening their financial situation. (L42)

Student A9 identified these types of works in ethnic minorities, specifically Gypsies 
(Fig.2) and African migrant populations, reflecting on the potential effects of employment 
disturbances:

A married couple selling oranges can be seen. Street selling is, has been and will be 
the livelihood of many gipsy families. Currently, the options of selling at a flea market 
are null. They worry that they cannot meet their basic needs, nor the feeding of his 
family. They subsist on activities very precarious, often irregular and unprotected. 
(A9)

Carlos is an immigrant. His studies are basic, he had a store of groceries, but with the 
COVID crisis, he had to close it. He was about to live on the street, but thanks to the 
owner of an old bar, they live there (in the bar) now, with precarious conditions. (A9)

With insufficient social protection, the economic impact might lead some populations 
to negotiate their food shopping and eating practices. For example, a student from León took 
a picture (Fig.3) identifying an increase in queues of people waiting at soup kitchens and food 
banks:

Not only the most disadvantaged people, such as homeless people, require access to 
these types of resources (soup kitchens), but that more and more people are having
difficulties buying food. The lack of food security can lead to health problems such as malnutrition, diabetes, osteoporosis or rickets. (L29)

Furthermore, a student from Southampton explained how the economic impact could change shopping practices, choosing unhealthy options that were more affordable (Fig.4):

*Fruit and vegetables are a lot more expensive to buy than the very unhealthy options. People, especially during COVID, do not have as much money as before the pandemic, so they have to survive on the unhealthy option.* (S5)

**Housing conditions**

Students identified relationships between the wider effects of the COVID-19 pandemic and where and the conditions in which individuals lived. For instance, student L38 explained how the loss of work prevented a family from putting the heating on daily in winter with its consequences (Fig.5). Also, some extreme situations lead to a significant change in living circumstances. Student A27 stated how a person lost his home because of the pandemic and its potential health effects:

*They have been made unemployed by the social effects of the pandemic, so they cannot afford to turn on the heating every day. Their children may suffer more illnesses (lung, colds or malnutrition) and psychological effects.* (L38)

"Mr. X" moved to Torrevieja. After arriving, he got a job, but the company decided to let him go because of the pandemic. He built his own house on an abandoned plot of land, not having access to drinking water or food. His health can be greatly affected. (A27)

Students noted how the quality of housing, overcrowding, degree of humidity, the population density of neighbourhoods, the availability of green spaces, or poor healthcare access could negatively impact. For example, student L6 highlighted how the size of a house
could facilitate the virus spread and impact hygiene. A student from Southampton (S5) described how living in small flats and not having access to green spaces during the lockdown could impact mental health (Fig.6):

_Gipsy families are living in small spaces, overcrowding, a greater risk of contagion._

_Hygiene conditions are not favourable either; many do not even have running water._

_(L6)_

_More flats and tower blocks are being built. Most places they build do not have extra room for a play area or green spaces. This leaves people in this COVID pandemic stuck inside, which is detrimental to mental health._ (S5)

Homeless people were recognised to be more exposed to the virus. For example, a student from Southampton (S3) identified this issue and lacked access to health services. This increased exposure to the virus was applicable to homeless migrants in Spain, who also faced everyday social injustices; students L26 and A7 explained this:

_Many homeless people don't have access to health care which means they are more likely to catch the virus and spread it to their peers, people they come in contact with or even the object they touch in the public area._ (S3)

_Sign, bowl and newspaper of a homeless woman in León at -2°C. A Nicaraguan teacher begs in the street because she has nothing to eat. She says that she receives no help from almost any Non-Governmental Organization. Social injustices have been exacerbated by the pandemic._ (L26)

_An immigrant man who lives on the street is forced to sit at the door of a supermarket to ask for food. This man will have difficulty complying with the measures imposed during the pandemic, which puts him at considerable risk of being infected by the virus._ (A7)
Proposals To Respond To The Negative Impact On Ethnic Minorities and Socioeconomically Vulnerable Groups

The students pointed out possible solutions to mitigate the impact the pandemic was having on these vulnerable groups.

**System-Level**

The students explained the need to establish social policies, laws, and regulations to protect these specific groups. For example, student L33 highlighted the government to be accountable for providing different types of support to cover basic needs:

*The most important help must come from the government by increasing or creating budget lines for social assistance so that all these people can be helped to re-integrate into the labour market and cover all their basic needs with subsidies, social housing.*

(L33)

The students recognised the vital role of health and social services, primarily community-based services, to provide holistic care for those at risk. For example, student S3 from Southampton named different community projects created to provide accommodation, testing, and care service. Also, student A23, from Alicante, identified the importance of community nursing to provide information about community support assets:

*Health and housing authorities in England developed a plan with two main elements: (1) provision of single room own-bathroom accommodation to homeless adults (called COVID-PROTECT); and (2) testing and medically supported accommodation for those with symptoms (called COVID-CARE).*

(S3)

*Community nursing can provide information about certain resources (soup kitchens, food distribution points, places where they can take a shower or rest) and help them in health-related matters.*

(A23)
Individual-Level

On the other hand, citizens needed to take great responsibility in their thinking and practices to tackle the impact of the pandemic on vulnerable groups. For example, student L37 explained the importance of raising awareness about the inequalities to access quality food during the pandemic:

*We should be aware that a hot meal on the table is a privilege not everyone can enjoy.*

*We need to raise awareness in society about the situation of certain social minorities.*

*(L37)*

In addition, student L7 highlighted that public health prevention rules should be respected for the common good, so contagion does not increase and contributes to a return to normality:

*The pandemic can only be stopped if we all contribute to social welfare and contain contagion by following the appropriate safety measures.* *(L7)*

A general feeling of the students was the need to work collectively as a society and promote aid participation through volunteering, for example, by distributing meals in soup kitchens, hygiene items to the homeless and donations of food, clothes, and medicines:

*The number of volunteers helping to deliver essentials to people during COVID.*

*Create a system by which disabled people or people with a severe need can ask for help.* *(S5)*

*We can run local shelters to offer them a roof to sleep in and shower with hot water.*

*Run local programs where people can donate their clothes, food or anything else that can meet the basic needs of these people.* *(A15)*
Discussion

This qualitative study attempts to cover a gap in the literature since no research had studied the reflection of undergraduate nursing students about how the COVID-19 pandemic influence those at a higher risk of suffering its wider consequences.

Thus, the nursing students from two different countries reflected on the impact of the COVID-19 pandemic on vulnerable populations affected by health inequities. The first theme explains how ethnic minorities and socioeconomically vulnerable groups are more exposed to the broader health effects of the COVID-19 pandemic, considering social determinants of health. Thus, the students recognised variations in employment status and their consequences on the economic situation of families. These income changes could shape lifestyle practices (e.g. type of shopping and eating practices), increase difficulties in paying basic house needs (e.g. lack of heating could promote the appearance of colds), and even the loss of the home (Bailin et al., 2021). In addition, people who had specific jobs could become vulnerable due to the pandemic (groups working on the streets and small retail and hospitality workers), which is in line with the results of another study (Chi-Wei Su et al., 2021). The students highlighted the relevance of the living place. For example, overcrowding in small living places could facilitate the spread of the virus, living in flats with no access to green spaces could impact mental health, and the homeless and, specifically, homeless migrants were also more exposed to the virus with less access to health resources. Other authors have documented how some ethnic minorities suffer more from the consequences of COVID-19 due to a lack of access to the COVID testing sites, the high possibility of living in densely populated areas or multigenerational households (Webb Hooper et al., 2020). Also, other research identified migrants to be significantly exposed to the virus due to their segmented incorporation into labour markets (Zapata & Prieto Rosas, 2020).
The second theme identifies and describes feasible and holistic actions to mitigate the impact of the pandemic on these two vulnerable populations. The students identified the need for global and local governments to implement laws and regulations to reduce these health and social inequalities. Furthermore, they described how the active role of healthcare professionals, especially in primary care, is essential to provide holistic care and extend healthcare coverage to all groups, something that others suggested before (Galvan et al., 2021). Finally, the active role that citizens must play in raising awareness, respecting rules, supporting local commerce, and volunteering actions in their communities to seek the common good were reported; some of these solidarity proposals are happening already worldwide as part of community interventions (Bowe et al., 2021; Igwe et al., 2020). As a consequence of this educational activity, the students from the University of León organised a successful food collection campaign, an initiative with the community's support (Diario de León, 2021).

Promoting reflection in students on these topics, as this research does, can be relevant. As some authors recommend, as future healthcare professionals, they will have to promote critical thinking to identify social injustices in their communities (e.g., inequities on ethnic minorities) as they will have to protect them (Cuellar, 2021). Furthermore, insisting on and providing further education on the importance of empowering nurses in policy decision-making (e.g. proposing feasible and holistic actions recognising and involving the role of different stakeholders) should be a responsibility for nurse educators (Habibzadeh et al., 2021).

Education in social determinants of health, social justice and sociocultural competence should be an essential element integrated throughout the degree programs. These points are insufficiently taught in nursing programmes (Alemany-Arrebola et al., 2021; Demirtas et al., 2021, Habibzadeh et al., 2021). Moreover, no research has been found in
which students reflected about how the virus influences those at a higher risk of suffering its wider consequences (specifically in ethnic minorities and socioeconomically vulnerable groups). All these aspects add value to this research.

A limitation of this study is the small number of participants from the United Kingdom. The voluntariness of the photovoice activity and the exclusively online education may have been critical factors in the lack of engagement by students there. This inequality in the number of participants in the two countries meant that a comprehensive comparison of the results was not possible. Therefore, these findings have been written in relation to the commonalities found between the two countries.

As future lines of research, it would be relevant that nursing students, nurses and other healthcare professionals conduct participatory action research, involving vulnerable populations in taking photographs of their realities and explaining them according to their experience. As part of that involvement, these vulnerable groups could become advocates for change in their communities and raise their voices to include their points of view in the creation of equitable health and social policies. Implementing this method and the same topic with students or professionals from different disciplines (health and social sciences: medicine, social work, psychology, education, etc.) could result in the development of multidisciplinary understandings and future interventions for all types of vulnerable populations. Also, conducting the same activity simultaneously in different countries can add knowledge to create national and international policies providing coverage on a global level.

Conclusion

Nursing students from two countries reflected on the impact of the COVID-19 pandemic on vulnerable populations affected by health inequities. The ethnic minorities and socioeconomically vulnerable groups of their communities were described to be exposed to the broader health effects of the virus, considering variations in employment and income and
the living conditions. These social determinants of health were related to an increased likelihood of exposure to the virus, an impact on mental health, the modification of eating practices and malnutrition, the appearance of acute respiratory diseases and hygiene deficiency. The students proposed holistic and collaborative actions involving multidisciplinary professionals, politicians, and citizens of their communities to care for and protect these vulnerable groups.

Promoting reflection in nursing students and raising awareness of these topics is crucial since, as future healthcare professionals, they must identify health inequalities and social injustices in their communities and being responsible for advocating for the right to health for people of all different cultural and social backgrounds across the globe.

**Conflicts of interest**: none.

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Figure 1. *The second pandemic* (A18)

Figure 2. *Oranges are sold* (A9)

Figure 3. *The new reality of soup kitchens* (L29)

Figure 4. *Health vs. junk* (S5)

Figure 5. *A different childhood* (L38)

Figure 6. *Let me out* (S5)