

## RESEARCH ARTICLE

# Knowledge, attitudes and practices in mental health of health professionals at the end of their curriculum in Burkina Faso: A pilot study

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## Abstract

**Aim:** To study the knowledge, attitudes and practices regarding mental health amongst health professionals at the end of their curriculum in Burkina Faso.

**Design:** A descriptive and cross-sectional study was adopted.

**Methods:** A simple random sampling was used to select 420 health students in Burkina Faso. Self-administered questionnaires on sociodemographic profile, knowledge, attitudes and practices about mental health were distributed.

**Results:** The response rate to the questionnaires was 93%. Our study sample included 391 students amongst whom 35% (138/391) were nurse students, 32% (125/391) medical students, 26% (100/391) midwife students and 7% (28/391) were pharmacy students. A quarter of our sample had completed an internship in psychiatry. Medical students' average knowledge, attitudes and practices in mental health were significantly higher than that of other students. Medical students had more time dedicated to mental health lectures and more opportunities for a mental health internship, unlike nurse students.

## KEYWORDS

attitude, Burkina Faso, knowledge, mental health, nurse, nursing, practice

## 1 | INTRODUCTION

Mental health is defined as a state of well-being where every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to her or his community (Achimovich, 2005; World Health Organization, 2017). Although mental illness is a global public health issue (Ganesh, 2011), the world community has little knowledge about mental disorders (World Health

Organization & International Council of Nurses, 2007). Indeed, mental health care is an essential, but often forgotten, component of health care (World Health Organization, 2001).

According to the WHO, mental disorders are responsible for the major part of morbidity in the world. It estimates that 25% of the world population will be affected at some point of their life by a mental disorder (World Health Organization, 2001). Between 76% and 85% of people with severe mental disorders living in low- and middle-income countries (LMICs) do not receive any treatment; in high

KAP in mental health Burkina Faso.

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income countries, the corresponding percentage is lower albeit still high (between 35% and 50%). An aggravating factor is the poor quality of care provided. Worldwide, annual spending for mental health is lower than two US dollars a person and falls below 0.25 US dollar a person in low-income countries (World Health Organization, 2010).

Limited resources allocated to mental health in LMICs lead to insufficient services and ongoing suffering for patients with mental disorders (Sharan, Global Forum for Health Research, & World Health Organization, 2007). The number of health professionals (specialized or not) in mental health departments in LMIC is clearly insufficient. Thus, it is important to increase the number and the quality of human resources (Liu et al., 2016). In addition, the same professionals need training through psycho-educational programmes (Aina, Oshodi, Erinfolami, Adeyemi, & Suleiman, 2015).

Moreover, traditional beliefs, prejudices and negative attitudes towards people suffering from mental illness are very common in the community as well as amongst health professionals. These are often additional barriers to access to mental health care (Botha, Koen, & Niehaus, 2006; Murthy, 2002).

It is important that student training to become primary health professionals has adequate training in mental health. It is so important for a country like Burkina Faso, where the prevalence of mental disorders is high (Ouédraogo et al., 2017). For these reasons, the objective of our study was to assess knowledge, attitudes and practices (KAP) in mental health amongst students training to become primary health professionals at the end of their curriculum in Burkina Faso.

## 2 | MATERIALS AND METHODS

An observational, descriptive and cross-sectional study was conducted from 16 March to 26 April 2017 in Ouagadougou (Burkina Faso). Self-administered questionnaires were completed by 7th year medical students, 6th year pharmacy students and 3rd year nurse and midwife students to assess their knowledge, attitudes and practices on mental health. We chose for every professional category, the institution training the largest number of students: Ecole Nationale de Santé Publique (ENSP—National School of Public Health), which trains the largest number of nurse and midwife students and Université Joseph Ki-Zerbo (UJKZ), which is the only University training pharmacy students and which trains the largest number of medical students. The questionnaire was based on documents from World Health Organization, 2008, World Health Organization, 2009 talking about knowledge, attitude and practice of mental health as well as questionnaires used in Benin (Vodougnon, 2019).

The number of participants needed (NSN) was calculated using the link [www.openepi.com/Menu/OE\\_Menu.htm](http://www.openepi.com/Menu/OE_Menu.htm). By using expected proportion of 50%, precision of 5% and adding 10% to compensate for non-evaluable participants, we got a NSN of 422 students.

Total number of students was 1,000, so proportion of our sample closed to the number of subjects needed was 50%. Finally, our study sample was determined by choosing, at random, half of every student groups from class lists. We then used a systematic elementary

random sampling (by randomly ordering students in the different groups and then taking one out every second student).

### 2.1 | Questionnaire

Paper case report forms (CRF) including standardized self-administered questionnaires adapted from WHO resources regarding the diagnosis and management of mental diseases (Vodougnon, 2019; World Health Organization, 2008, 2009, 2010). The questionnaires were focused on depression and psychoses (essentially schizophrenia and puerperal psychosis) because these two diseases are amongst the most burdensome in mental health. Depression represents the most frequent disorder in mental health and schizophrenia the most stigmatizing (Achimovich, 2005; Angermeyer & Matschinger, 2003; Read, Haslam, Sayce, & Davies, 2006; Sartorius, 2007; Schulze & Angermeyer, 2003; Thornicroft, Brohan, Rose, Sartorius, & Leese, 2009). Depression and psychosis carry a very heavy burden in terms of mortality, morbidity and disability; they are also very costly, especially in terms of lost economic outputs and are often associated with human rights violations (World Health Organization, 2001). We also included puerperal psychosis as it represents a severe illness for women, with a risk of suicide and infanticide (Gilles, 2015).

The CRF included a common questionnaire (that part was used with all students as it had topics relevant to all students) and a specific questionnaire (that part was specific of each type of student, as it had questions specifically related to the role of each healthcare professional). Questionnaires were marked on a total score of 20, with each correct response getting +1, whilst an incorrect response would get -1 and "do not know" 0. A total score lower than 10/20 was considered "insufficient" whilst a total score greater or equal to 10/20 was considered as "satisfactory." Before administering the questionnaires to our sample, these were pre-tested, and when required, the wording was adjusted to ensure a good understanding of the questions. Pre-testing consisted of getting students matching our study populations to complete the questionnaires.

### 2.2 | Ethical aspects

Our research protocol was approved by the Research Ethics Committee of Burkina Faso (Number 2017-3-028). We also received authorization from the Ministry of Health of Burkina Faso to conduct the study as well as the agreement of ENSP and UJKZ. The informed oral consent of the students was sought prior to completing the questionnaires. Data were collected anonymously and were only used for the study.

### 2.3 | Statistical analysis

Data were analysed using StatView version 5.0 software (SAS Institute), and graphical representations were developed using

Microsoft Excel 2010 and STATVIEW 5.0 software. A descriptive analysis was used for sociodemographic characteristics of the sample. To identify factors associated with the highest knowledge, a backward stepwise multivariate logistic regression was conducted. We took into account in the initial model all the variables with a *p* value lower than .2 after the univariate regression, and then we removed successively from the model the variables that were not significant. We used ANOVA test to compare KAP in mental health of the four groups of students. Then, we conducted a post hoc analysis (Scheffe's test) to compare groups of students. Level of significance was fixed to 0.05. We hypothesized that half of health professional students had satisfactory score of KAP in mental health.

### 3 | RESULTS

In total, 420 CRF were distributed to 420 students and 391 completed them. The response rate was 93% (391/420). Our study sample included 391 students amongst whom 35% (138/391) were nurse students, 32% (125/391) medical students, 26% (100/391) midwife students and 7% (28/391) were pharmacy students. The average age for nurse, medical, pharmacy and midwife students was respectively  $29.1 \pm 5.1$ ,  $27 \pm 1.8$ ,  $25.6 \pm 1.9$  and  $29.1 \pm 5.1$  years (Table 1).

Only a minority of students had completed an internship in a mental health department (Figure 1). The highest percentage was 44% for medical students, and the lowest was 6% for midwife students.

Most students declared not to know a relative suffering from mental illness. However, 16.4% of them had a friend who had mental illness (Table 2). Medical students got the highest KAP score, and the lowest score was obtained by midwife students (Table 3). Results of ANOVA test showed that there was a statistically significant difference between average KAP scores from the various student groups

( $p < .0001$ ). So, post hoc tests were used to compare KAP scores from different student groups, two by two and the difference remained significant for medical students who had the highest score (Table 4).

The univariate logistic regression showed that variables such as training institution, age, sex, time elapsed since mental health training, to have seen a mentally ill person at the hospital, at home or on the street and to have completed a mental health internship were statistically significant. In other words, these variables were linked to a satisfactory KAP score in mental health (Table 5).

### 4 | DISCUSSION

Our study took place in Ouagadougou, Burkina Faso's capital, where we collected, processed and analysed data from 93% of our sample of medical, nurse, pharmacy and midwife students. We found that medical students' average KAP scores in mental health (15/20) were significantly higher than the other students' average scores (between 10 and 12/20,  $p < .0001$ ).

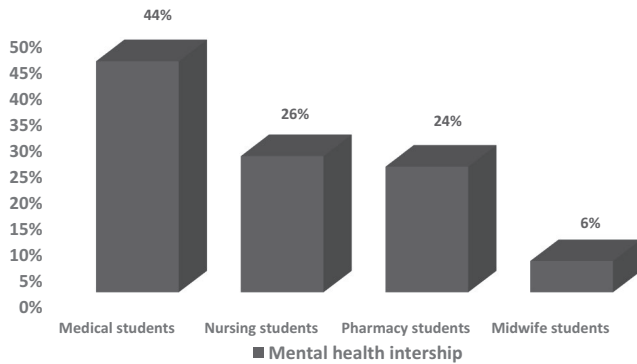
We met difficulties, in particular regarding the accessibility of students because many of them had already finished their formal training and had started their final internship in regions. It was particularly difficult to reach students who were far away from each other.

The various KAP scores obtained by the various groups of students might also be a reflection of the time allocated to mental health in the various curricula, with nurse students having very limited time (only 10 hr) dedicated to mental disorders in their curriculum and pharmacy students having no time spent on the clinical aspects of mental illness. Thus, classroom lectures could be completed by other ways of gaining knowledge on mental health. Research suggests that adding in the teaching programme, educational events, designed to be both dynamic and interactive and including a focus on learning

**TABLE 1** Sociodemographic characteristics of students

	Nursing students		Medical students		Pharmacy students		Midwife students	
	N	%	N	%	N	%	N	%
Age range								
<30 years old	82	66	128	93	28	100	57	57
30–40 years old	37	30	10	7	0	0	38	38
≥40 years old	6	5	0	0	0	0	5	5
Female	81	65	47	34	12	43	86	86
Marital status								
Married	63	50	20	14	1	4	55	55
Single	62	50	118	86	27	96	45	45
University								
ENSP	125	56	0	0	0	0	100	44
UJKZ	0	0	138	83	28	17	0	0

Note: University ENSP, Nurse and midwife students University. University UJKZ, Medical and pharmacy students University.



**FIGURE 1** Percentage of students by group having completed an internship in mental health

**TABLE 2** Distribution of students according to their eventual link with a patient suffering from a mental health disease

The link between students and a patient suffering from a mental health disease	Percentage
Friend	16.4
Relative	7.3
Colleague	2.3
Unknown	74.0

strategies might have a significant impact on the motivation of students and the development of key competencies. (Côté, Bellavance, Chamberland, & Gaillon, 2004). The high proportion of women in our sample reflects the high proportion of women in the general population of Burkina Faso but also the school enrolment policies that, over the years, have allowed a greater proportion of girls to get access to primary and secondary schools (Programmes d'analyse des systèmes éducatifs de la CONFEMEN, 2016).

The differences in the mean age of the students are likely due to differences in enrolment criteria between UJKZ and the ENSP. In the first University, enrolment is based on age criteria and school grades, whereas for nurse and midwife students, candidates are selected through a professional examination or based on qualifications. Practical training is very important for health students because it allows reinforcing their skills (Le Mauff et al., 2005). The more hands-on experience with people with mental disorders health professionals get, the better they can take care of patients suffering from these illnesses (Thongpriwan et al., 2015). Nurse students describe their hospital training as an opportunity to apply theoretical knowledge. Self-confidence of these students increases considerably with mental health internship. Hence, this underlines the importance to develop clinical training in their curriculum (AL-Sagarat, ALSarairah, Masa'deh, & Moxham, 2015). Lack of knowledge and lack of clinical experience with patients lead to students' negative attitudes and stigmatization towards people with mental disorders (Kato, Balhara, Chawla, Tateno, & Kanba, 2013). Lack of clinical experience in a mental health department would not motivate medical health professionals to specialize in Psychiatry (Wang, Xiang, Hao, & Liu, 2013). Most of the health professionals' attitudes are based on

**TABLE 3** Average scores for the common questionnaire of the four groups of students

Learners	Mean	Standard deviation
Nurse students	11.0	4.2
Medical students	15.2	3.6
Pharmacy students	11.9	3.7
Midwife students	10.4	4.3

**TABLE 4** Comparison of students' groups by a post hoc test (Scheffe's test)

Compared variables	p value
Nurse students, medical students	<.0001*
Nurse students, pharmacy students	.7879
Nurse students, midwife students	.7502
Medical students, pharmacy students	.0014
Medical students, midwife students	<.0001*
Pharmacy students, midwife students	.4125

\*p value < .05.

their experience (Hugo, 2001). Personal experience in mental health is of great help to nurse students in their practice. Indeed, this experience creates some empathy and also allows people with mental disorders to have confidence in healthcare services (Oates, Drey, & Jones, 2017).

Midwife students are in an ideal position to provide care to women by supporting them psychologically throughout pregnancy, childbirth and postnatal period. However, in several cases the lack of skills does not allow them to carry out well their mission (Higgins, Carroll, & Sharek, 2016). Thus, they need more practical training in mental health to better manage women with mental disorders (Noonan, Doody, Jomeen, & Galvin, 2017) in particular postpartum depression, which is very frequent (Masmoudi et al., 2014). Postnatal depression can be considered a public health problem, not only because of its high prevalence but also because of its deleterious consequences on newborns, on couple relationships and even on family balance, especially as it can lead to chronic mood disorders. There is a great need to prevent it by acting on risk factors, screening for it and managing it through multidisciplinary approaches (Essam, Luwa, & Ma-Miezi, 2012).

Our study showed that 36% of nurse students had insufficient knowledge in mental health according to the common questionnaire. This proportion is lower than that of Mariam et al. who found that more than half of nurse students in Addis Ababa, Ethiopia, had insufficient knowledge in mental health (Mariam, Bedaso, Ayano, & Ebrahim, 2016). On the other hand, medical and pharmacy students had the best knowledge scores in mental health with 91% and 71% of students respectively having knowledge scores above 10/20. This situation could be potentially due to the amount of time dedicated to mental health in the different curricula: for medical students there are 80 hr of lecture, as well as tutorial classes and practical classes, whereas nurse and midwife students only get 10 hr

**TABLE 5** Factors of satisfactory scores in mental health after a univariate logistic regression

Variables	Analyse		p
	OR	95% OR	
University			
ENSP	0.22	0.13–0.37	<.0001*
Age			
30–40 years old	0.56	0.33–0.93	.0239*
>40 years old	0.40	0.12–1.36	.1416
Sex			
Female	0.63	0.40–1.00	.0455*
Type of student			
Medical	5.41	2.75–10.66	<.0001*
Pharmacy	1.41	0.57–3.45	.4566
Midwife	0.69	0.40–1.18	.1716
Marital status			
Married	0.92	0.58–1.45	.7183
Not married	1.56	1.00–2.44	.0521
Having heard of mental health patient			
Anteriority of mental health training			
>1 year	0.35	0.21–0.57	<.0001*
Having ever seen mental health patient?			
No	0.79	0.14–4.39	.7903
Relationship with the mental health patient			
Friend	0.82	0.33–2.41	.8242
Unkown	0.46	0.43–1.48	.4646
Mental health training			
	1.92	1.10–3.35	.0228*
Place where student saw mental health patient			
At home	1.46	0.54–3.95	.4523
At the street	0.54	0.30–0.97	.0385*
Hospital, home and street	1.80	1.03–3.13	.0381*

\*p value < .05.

dedicated to mental health including lectures, evaluation and personal research. This difference allows medical students to get better in-depth knowledge and understanding of the area. Moreover, this better knowledge and understanding of mental health might also be explained by the fact that medical students get at least six years of hospital internship through their entire curriculum whilst nurse and midwife students get only half of that.

The factors related to a better score were not really surprising. A student having already seen a mentally ill person could better identify some of the symptoms associated with these illnesses, would therefore probably already have a better knowledge in mental health. It is important to note, however, the potential for misattributing someone as mentally ill on the basis of the three following cues. For example, eccentric behaviour that is not characteristic of a psychiatric disorder could be misunderstood as mental

illness. Second, stigmas are cues that elicit stereotypes, knowledge structures that the general public learns about a marked social group. Third, people who are prejudiced endorse negative stereotypes and generate negative emotional reactions as a result (Corrigan, 2004). Medical students have more time dedicated to mental health lectures and more opportunities to do a mental health internship.

Using non-validated questionnaires is one of the limitations of our study, but it is the first step to get validated questionnaires. Our study was cross-sectional and only reflected students KAP scores at the time of the investigation; it did not allow to assess their previous KAP score. In addition, the selection of two specific health universities does not allow the generalization of the results to the population.

One of the inclusion criteria was that students had to have attended mental health courses or courses on psychotropic drugs, resulting in another potential selection bias. Indeed, this criterion would increase the level of KAP in mental health and would tend therefore to overestimate mental health KAP. However, our aim was to assess the KAP of first-line healthcare professionals, at the end of their academic curriculum, to propose solutions to improve training in mental health. Our research suggests that healthcare students have low KAP scores in mental health despite the high prevalence of mental disorders in Burkina Faso. This situation could be due to the insufficient time dedicated to mental health for health students. Healthcare students could also contribute to reduce stigma towards people with mental disorders in the community. Indeed, if these students had stronger knowledge on mental health, they could also help educate the community.

Mental health knowledge for health science students could be improved by increasing the time dedicated to theoretical and practical learning in mental health during their curriculum. In addition, it could be interesting to recruit high academic level teachers, to reduce student–teacher ratio and to reorganize mental health internship. It might also be important to consider providing continuing education in mental health for practicing health professionals. This study could lead to our KAP questionnaire be used and validated in other low- and middle-income countries.

## 5 | CONCLUSION

Mental disorders are a growing public health issue in Burkina Faso and in other LMICs. Our study has shown low KAP scores in mental health amongst students finishing their training to become primary healthcare professionals in Burkina Faso, in particular nurse and midwife students, suggesting deficiencies in the mental health training of these students. Considering the low number of mental health specialists in Burkina Faso and other LMICs and the essential role that primary healthcare professionals need to play in identifying and managing people with mental disorders, the results of our study highlight the need to address these mental health training gaps. This could be achieved by dedicating more time to it and providing additional opportunities for

practical training or internships. This original study could serve as an initial step to validate our questionnaires and conduct similar studies in other LMICs to establish comparisons between countries.

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## CONFLICT OF INTEREST

VL and PEB are Sanofi employees and own Sanofi stocks. DG is a former employee of Sanofi. All other authors declare that there is no conflict of interest related to the writing and publication of this article.

## AUTHOR CONTRIBUTIONS

Study design: PPM, LV, DG, BPE and SKCC. Data collection: SKCC. Data analysis: SKCC and PPM. Manuscript writing: SKCC, LV, BPE, PPM and GD.

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