Knowledge, attitude, and practice towards mental illness service provision and associated factors among health extension professionals in Addis Ababa, Ethiopia

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Abstract

Background: Mental, neurological and substance use disorders are highly prevalent in Ethiopia which are known to result in substantial disability. Improving the knowledge, attitude and practice of the primary health care workers is important to reduce this problem. Hence, this study aimed at assessing knowledge, attitude, and practice towards mental illness service provision and associated factors among urban health extension professionals (UHEPs) of Addis Ababa City Administration.

Methods: A cross sectional study design was used. Data was collected from 455 study participants using structured and pre-tested self-administered questionnaire and analyzed using SPSS version 20 software respectively. Multivariate logistic regression analysis was performed to identify variables which have significant association with the outcome variables. The level of significant association was determined by adjusted odds ratio (AOR) with 95% confidence interval.

Results: This study showed that 44.0% of urban health extension professionals (UHEPs) had adequate knowledge, 93.4% did not have positive attitude and 75.2% had good practice towards mental illness. Age 30 years and above (adjusted odds ratio (AOR): 95% CI 0.55 (0.34, 0.90)), having diploma educational status (AOR 95% CI 0.49 (0.32, 0.78)), and personal history of mental illness (AOR 95% CI 0.10 (0.01, 0.89)) were found to have a negative association with knowledge. Presence of job aid (AOR 95% CI 4.30 (2.59, 7.15)) and having good knowledge (AOR 95% CI 0.52 (0.32, 0.85)) were increased the practice of service provision of UHEPs.

Conclusion: Less than half of UHEPs had adequate knowledge, most had unfavorable attitude and about three-fourth of them had good practice. Presence of job aid and having good knowledge were increased the UHEPs practice of mental health service provision. Hence, providing refresher training to UHEPs and fully implementing the national mental health strategy as well as proper clinical supervision and support to improve behavioral change is vital.

Keywords: Mental illness service provision, Knowledge, Attitude, Practice, UHEPs

Background

Mental Health, as defined by the World Health Organization (WHO), is a state of well-being in which 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 [1]. Mental, neurological, and substance use (MNS) disorders are prevalent in all regions of the world and are major contributors to morbidity and premature
training manual. To the best knowledge of the researcher, there is a serious shortage of information that helps to explain the knowledge, attitude and practice of mental health service provision in country and also in the study setting. Hence, this study aimed to assess the knowledge, attitude, and practice towards mental health service provision and associated factors among urban health extension professionals of Addis Ababa City Administration.

Methods and materials
An institution based cross sectional study was conducted in Addis Ababa City in five selected sub cities (Kolfe Keranio, Arada, Addis Ketema, Yeka, and Bole) from October 2017 to December 2017. The city has 3,384,569 people living in it according to the 2007 census with an annual growth rate of 3.8%. Currently, according to the annual report of 2015 from the Addis Ababa Regional Health Bureau, there are 6 hospitals and 98 health centers under the City Administration. Out of 98 health institutions, 60 health centers and 9 hospitals (including hospitals under the FMOH) are providing mental health service to the population. This service is provided by health providers who are trained as per the WHO supported mhGAP program. Accordingly, every year these health facilities are providing services to over 6000 peoples [7]. Unlike the rural health extension workers, urban health extension professionals are placed within the woreda (the third-level administrative divisions of Ethiopia) health office.

Population
The source population was all urban health extension professionals who were working in Addis Ababa City Administration. Whereas, the study population was sampled urban health extension professionals who were working in the selected 44 woredas during the time of data collection and were fulfilled the inclusion criteria. The Urban Health Extension Professionals on long vacation or maternity leave were excluded from the study.

Sample size determination and sampling procedure
The sample size was calculated by double population proportion formula using Epi-info7.2. The following parameters were considered for the calculation: proportion of Nurses who took training and had good knowledge, 59% and proportion of Nurses who took training and did not have knowledge 40.5%, 84% power, AOR 2.1 and 95% confidence interval [8]. Then, after using design effect of 2 and non-response rate 10%, the final sample size was 506. Multi Stage sampling technique was implemented to select the desired sample. At the first stage, five sub cities were selected out of ten sub cities using simple random sampling. At the 2nd stage, 44 woredas were selected out
of the 62 woredas in the selected sub cities using lottery method. Woredas selected were also based on availability of sample to satisfy the desired sample size. At the 3rd stage, out of the total 658 UHEPs, 506 UHEPs were selected from the sampled woredas.

Measurements

Knowledge
In this study knowledge refers to the understanding of mental illness, which includes causes, its symptom (manifestation), treatment, management and risk factor. It was assessed by five questions (four of them were multiple response and one was ‘yes; ‘no’ and ‘I don’t know’ choices). Respondents who got all correct response have got a maximum of 20 points, higher points indicate good knowledge. Based on total score and distribution, knowledge on mental illness service provision was categorized into inadequate (< 12 scores) and adequate (≥ 12).

Attitude
In this study attitude encompasses opinion or perceptions, threat, susceptibility and seriousness that the study participants may have towards mental illness and providing service to person with mental illness. It was assessed by 12 questions. Based on total score and distribution, attitude on mental illness service provision was categorized into unfavorable (< 9 scores) and favorable (≥ 9).

Practice
In this study it refers to actions based on knowledge and attitude of the participants in providing mental illness service (diagnosis, referral and counseling) to the community. It was assessed by seven questions. Based on total score and distribution, practice on mental illness service provision was categorized into poor (< 4 scores) and good (≥ 4).

Job aid
In this study refers to officially distributed materials (broacher, booklet, flipchart) that can support the UHEPs to make a proper diagnosis, provide better counseling at the point of delivery of service. It was assessed by if they have job aids or not.

Data collection tools and procedures
Structured and pretested self-administered questionnaire was used as a tool for data collection. The data collection tool was developed and adapted after a thorough review of relevant literature [8–12]. The questioners were grouped into five sections: socio-demographic characteristics, respondent’s knowledge regarding mental illness, respondent’s attitude towards mental illness, respondent’s practice regarding mental illness service provision to the community and factors associated with mental illness service provision.

To ensure the quality of data the questionnaire was first developed in English and translated into Amharic, local language. Then, different individuals fluent in both languages translated the Amharic version back to English to check its consistency. Finally, the instrument was administered in Amharic language. Data collectors and supervisors were trained for a day on how to introduce study tools to the study participants and check the completeness of each questionnaire. Pretest was also conducted on UHEPs similar study participants from kirkos sub cities in Addis Ababa which was not included in the study to check the validity and reliability. Based on the feedback from pretest, possible amendments were made on some parts like changing the choices from one to multiple response possibility. During data collection the supervisor checked the filled questionnaires on daily bases for further checkup. Then, data were checked for the completeness before entry to computer software for analysis.

Data processing and analysis
The collected data was entered using the Epi-data version 3.1 and analyzed using SPSS version 20.0 statistical software package. The analyzed data was presented in the form of table, figure and text using frequency and summary statistics such as mean, standard deviation and percentage. Crude and adjusted odds ratio (OR) were calculated to check statistical association between the dependent and independent variables using the bivariate and multivariable analysis. All variables of the study were initially tested for association with knowledge, attitude and practice regarding mental health service provision by using the binary logistic regression model. Those which showed statistical association (P < 0.25) in bivariate analysis were putted in the multivariable analysis model to check if the association existed after controlling against all the rest of the variables. A cut off value of 0.25 is supported by literature [13, 14]. All statistical tests were done by assuming 95% confidence interval and statistical significance was considered at P-value less than 0.05.

Results
Socio-demographic characteristics of respondents
Out of 506 sample size calculated, a total of 455 participants participated in the study giving a response rate of 89.9%. The mean age of the study participants was 27.9 years, ranged between 20 and 42 years (SD± 3.94). Among the 455 study participants, 206 (45.3%) were
never married and the highest proportion of study participants, 324 (71.3%) were Christian orthodox.

About three-fourth, 74.5%, of the study participants had diploma in terms of their educational status and 85.9% of them were graduated from private institutions. Their mean working experience was 3.71 years (SD ± 2.61) which ranges from 1 month to 10 years (Table 1).

**Individual factors of urban health extension professionals (UHEPs)**

Among the study participants, only 21 (4.6%) had a family history of mental illness while 377 (82.9%), and 57 (12.5%) hadn’t and did not know if there was a history of mental illness within their families respectively. From the study participants, 8 (1.8%) had a personal history of mental illness and 340 (74.7%), and 107 (23.5%) did not have and did not know if they had a personal history of mental illness respectively.

**Knowledge of UHEPs on mental illness**

Among the study participants 200 (44.0%) had adequate knowledge regarding mental illness. The four most frequently selected causes of mental illness by the study participants were stress 435 (38.1%), drug/substance abuse 337 (29.5%), weak nerves 142 (12.4%), and brain chemistry 141 (12.3%). Being lonely 356 (17.6%), extreme mood changes 340 (16.8%), and suicidal 316 (15.7%) were the response of the study participants for the manifestation of mental illness. Two hundred thirty-three (50.8%) participants responded provision of drugs, counseling and referral are the way to manage mental illness (Table 2). Respondents were asked for the curability of mental illness and majority of study participants 360 (79.1%) responded mental illness as curable and the rest responded as no and I don’t know.

**Attitude of UHEPs towards mental illness**

More than three-fourth of the UHEPs, 78.5%, did not have a favorable attitude towards mental illness. Among study participants 86 (18.9%) strongly agreed and 171 (37.6%) agreed that people with mental illness are dangerous. Similarly, thirty-nine (8.6%) participants strongly agreed and 183 (40.2%) agreed with mentally ill people are unpredictable, and 62 (13.6%) were not sure. Seventy-six (16.7%) of them strongly agreed and 187 (41.1%) agreed that mentally ill people can lead a normal life. There were 195 (42.9%) who agreed, and 231 (50.8%) who strongly agreed that mentally ill people should be confined to facilities for the rest of their life.

Majority, 284 (62.4%) of the study participants disagreed with the idea of mental illness is a personal weakness; while, only 20 (4.4%) and 64 (14.1%) strongly agreed and agreed respectively. Also, 261 (57.4%) disagreed with mental illness counseling should be left for specialists. One-fifth, 20%, of the study participants strongly agreed and 174 (38.2%) agreed on medication is effective to treat mental illness (Tables 3 and 4).

**Reinforcing and enabling factors for mental illness service provision**

Among 455 study participants, only 62 (13.6%) were trained during the 3 months training of their being urban health extension professional; while the majority, 311 (68.4%) didn’t know whether they have been trained on mental illness during this time. Almost all, 433 (95.2%) of the study participants were not provided in-service training on mental illness since they have started working as urban health extension.

Almost half of the study participants, 226 (49.7%) had job aids that support the provision of mental illness services. About three-fourth (74.7%) of the respondents claimed that they got supportive supervision, whereas 281 (61.8%) received one to two supportive supervision visits per month (Table 5).

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**Table 1 Socio-demographic characteristics of UHEPs in Addis Ababa, 2017**

| Variables            | Frequency (n = 455) | Percentage (%) |
|----------------------|---------------------|----------------|
| **Age group (years)**|                     |                |
| 20–29                | 388                 | 74.3           |
| 30–44                | 117                 | 25.7           |
| **Mean ± SD**        | 27.94 ± 3.94        |                |
| **Marital status**   |                     |                |
| Ever married         | 249                 | 54.7           |
| Never married        | 206                 | 45.3           |
| **Religion**         |                     |                |
| Orthodox             | 324                 | 71.3           |
| Protestant           | 90                  | 19.8           |
| Catholic             | 8                   | 1.8            |
| Muslim               | 33                  | 7.3            |
| **Educational status**|                    |                |
| Diploma              | 339                 | 74.5           |
| Degree               | 116                 | 25.5           |
| **Work experience (years)**|                |                |
| ≤ 2.5                | 205                 | 45.1           |
| 2.6–5                | 108                 | 23.7           |
| 5–7.5                | 98                  | 21.5           |
| 7.5 and above        | 44                  | 9.7            |
| **Mean ± SD**        | 3.71 ± 2.61         |                |
| **Institution of graduation**|               |                |
| Private              | 391                 | 85.9           |
| Government           | 64                  | 14.1           |
About 98% of the study participants were providing awareness creation of mental illness to families, individuals, and groups, while 10.8% of them were diagnosing mental illness. Most of the study participants 413 (90.8%) were referring (using referral form) clients to further treatment to health centers, general hospitals and hospital that are providing only mental health service. Three hundred ninety-two (86.2%) of the study participants were following up on patients they have referred, whereas 388 (85.3%) of the study participants were providing counseling to mentally ill patients (Table 6).

Factors associated with knowledge on mental illness service provision
After bivariate logistic regression analysis; age, religion, educational status, work experience, personal history of mental illness and job aid were candidate variables for multivariate logistic regression analysis with P-value < 0.25.

Among the socio demographic variables, UHEPs age from 30 to 44 years were 45% less likely to have knowledge when compared to those whose age were 20–29 years [AOR = 95% CI 0.55 (0.34, 0.90)]. The other socio demographic variables associated with knowledge was their educational status; those Bachelor degree holders were 51% less likely to have adequate knowledge compared to those UHEPs who had diploma [AOR = 95% CI 0.49 (0.32, 0.78)]. UHEPs who did not have personal history of mental illness were 90% less likely to have adequate knowledge compared to those UHEPs who had personal history [AOR = 95% CI 0.10 (0.01, 0.89)] (Table 7).

Factors associated with attitude towards mental illness
In a bivariate analysis; in-service training, family history and knowledge of mental illness were candidate variables for multivariate logistic regression analysis with P-value < 0.25. Among the variables analyzed for multivariate regression, all the three (in-service training, family history and knowledge) didn’t show significant association with attitude.

Factors associated with practice of mental health service provision
In a bivariate analysis; age, educational status, work experience, family history of mental illness, supportive supervision, in-service training and job aid were candidate variables for multivariate logistic regression analysis with (P-value < 0.25).

Job aid was statistically significant with practice of UHEP towards provision of mental health service. Those UHEPs who did not have job-aids were four and half times more likely to have good practice comparing to those who had [AOR = (95% CI 4.30 (2.59, 7.15)]. Overall knowledge was also associated with practice; those UHEPs who did not have adequate knowledge were 48% less likely to have good practice compared to those UHEPs who had adequate knowledge with [AOR = 95% CI 0.52 (0.32, 0.85)] (Table 8).

Discussion
This study focused on assessing knowledge, attitude, practice and factors associated with the mental illness service provision among urban health extension
professionals in Addis Ababa with a view to suggest an appropriate practice.

According to this study, 44.0% of the study participants had adequate knowledge, when compared to different studies conducted on similar study participants, the result of this study was lower than a study conducted in Addis Ababa, 50% [8], Jimma Zone, 89%, [11] and Chitwan, Nepal, 76.5% [11], Nigeria, 43.2% [19], and Kenya, 29.4% [12]. The possible explanation for this result might be the relatively low knowledge of urban health extension professionals on the subject matter, low exposure to mental illness service provision and cultural difference. According to the Ethiopia mental health strategy, such big percentage of unfavorable attitude among UHEPs who are a grass-root level primary health care cadre and who interact with the community on regular basis can negatively affect the already existing cultural believes (the cause of mental illness is supernatural, spirit possession, and the evil eye) of the community and also affect the outcome expected from the integration and scaling up of the mental health service [18]. WHO mental health policy planning and service development also suggest that, stigma can be reduced through primary health care service provider positive attitude towards mental illness. The same literature also indicates the solution to improve primary health care provider’s attitude is training [15].

The overall practice of urban health extension professionals related to service provision for mental illness was 75.2%. This result was aligned with the finding from the study conducted in Kenya on staffs in the general medical facility, referral of suspected patients to mental health care specialist were reported as 89% [12]. Though the overall practice of mental health service provision was good, only 10.8% were diagnosing mental illness at their level. This can be explained from the prospective that low knowledge of UHEPs.

Regarding practicing mental health service provision, about 91% of the study participants were referring the patients with manifestation of mental illness, and larger proportion of UHEPs, 85.3% were providing counseling to the clients and their families. Comparing to the low level of attitude among the study participants, this may be due to lack of basic and refresher training on mental health that inevitably missed and leading to mismanagement of the patients with mental illness which in turn would adversely affect the outcome of the service provision. The above statement is also supported by WHO mental health policy planning and service development fact sheet which states that low attitude of primary health care providers can affect the human right protection approach [15].

Concerning knowledge, UHEPs whose age were from 30 to 44 years were 45% less knowledgeable when compared to those whose age were 20–29 years. The finding from Addis Ababa Public Hospital showed nurses whose age were 23–27 years two times more

| Characteristics | Frequency (n = 455) | Percentage (100%) |
|-----------------|---------------------|-------------------|
| Over all attitude |                      |                   |
| Favorable       | 98                  | 21.5              |
| Unfavorable     | 357                 | 78.5              |
| Medication is effective for treating mentally ill patients |                      |                   |
| Strongly agree  | 91                  | 20.0              |
| Agree           | 174                 | 38.2              |
| Undecided       | 36                  | 7.9               |
| Disagree        | 140                 | 30.8              |
| Strongly disagree | 14                 | 3.1               |
| Mentally patient should be able to receive treatment in all health facilities |                      |                   |
| Strongly agree  | 116                 | 25.5              |
| Agree           | 143                 | 31.4              |
| Undecided       | 18                  | 4.0               |
| Disagree        | 157                 | 34.5              |
| Strongly disagree | 21                 | 4.6               |
| People with mental illness can lead a normal life |                      |                   |
| Strongly agree  | 76                  | 16.7              |
| Agree           | 187                 | 41.1              |
| Undecided       | 34                  | 7.5               |
| Disagree        | 130                 | 28.6              |
| Strongly disagree | 28                 | 6.2               |
knowledgeable than nurses whose age were greater than 37 years [8]. This result was similar to the study conducted in Kenya that among younger nurses (aged 20–30 years), the proportion of those who were “unaware” related to knowledge in psychiatry were higher than older nurses (aged 40 years and above) [12].

Those UHEPs with an educational status of Bachelor degree were 51% less likely to be knowledgeable than those who had diploma. This result was different with the KAP study conducted in Kenya [12], in which the proportion of doctors reported knowledgeable about mental disorders was higher than that of nurses. Similarly, study conducted in Addis Ababa showed that midwifery nurses were four times more knowledgeable than clinical nurses [8].

Urban health extension professionals who did not have a personal history of mental illness were 90% less likely to have adequate knowledge compared to those UHEPs who had personal history. Possible explanation might be those who already had the history might read further about the issues to have better understanding and manage the problem.

Regarding the practice UHEPs, those who did not have job-aids on mental health service provision were four and half times more likely to have good practice compared to those who had a job aid. The possible reason might be those UHEPs who did not have the job aid were using different references that can support their service provision. The overall knowledge was also associated with practice; those UHEPs who did not have adequate knowledge were 48% less likely to have good practice compared to those UHEPs who had adequate knowledge. The possible reason might be those who had knowledge may provide the service easily.

**Limitations**

The limitation of this study is the possibility of recall bias that might have been introduced due to some knowledge related questions were difficult to remember because of time. To minimize such bias training on probing

| Characteristics | Frequency (n = 455) | Percentage (100%) |
|-----------------|--------------------|-------------------|
| People with mental illness are dangerous | | |
| Strongly agree | 86 | 18.9 |
| Agree | 171 | 37.6 |
| Undecided | 44 | 9.7 |
| Disagree | 141 | 31.0 |
| Strongly disagree | 13 | 2.9 |
| Mental illness is sign of personal weakness | | |
| Strongly agree | 20 | 4.4 |
| Agree | 64 | 14.1 |
| Undecided | 32 | 7.0 |
| Disagree | 284 | 62.4 |
| Strongly disagree | 55 | 12.1 |
| Counseling’s of mental illness should be left for specialist | | |
| Strongly agree | 46 | 10.1 |
| Agree | 81 | 17.8 |
| Undecided | 35 | 7.7 |
| Disagree | 261 | 57.4 |
| Strongly disagree | 32 | 7.0 |
| Counseling is unsuccessful for patient with mental illness | | |
| Strongly agree | 33 | 7.3 |
| Agree | 35 | 7.7 |
| Undecided | 8 | 1.8 |
| Disagree | 278 | 61.1 |
| Strongly disagree | 101 | 22.2 |
| Mentally ill patients are usually violent | | |
| Strongly agree | 64 | 14.1 |
| Agree | 207 | 45.5 |
| Undecided | 45 | 9.9 |
| Disagree | 120 | 26.4 |
| Strongly disagree | 19 | 4.2 |
| Mentally ill patients are usually unpredictable | | |
| Strongly agree | 39 | 8.9 |
| Agree | 183 | 40.2 |
| Undecided | 62 | 13.6 |
| Disagree | 151 | 33.2 |
| Strongly disagree | 20 | 4.4 |
| Mentally ill patients need constant care | | |
| Strongly agree | 285 | 62.6 |
| Agree | 142 | 31.2 |
| Undecided | 3 | 0.7 |
| Disagree | 10 | 2.2 |
| Strongly disagree | 15 | 3.3 |
| Mentally ill patients should be confined to facility to the rest of their life | | |
| Strongly agree | 8 | 1.8 |
| Agree | 8 | 1.8 |
| Undecided | 13 | 2.9 |
| Disagree | 195 | 42.9 |
| Strongly disagree | 231 | 50.8 |

Table 4 (continued)

| Characteristics | Frequency (n = 455) | Percentage (100%) |
|-----------------|--------------------|-------------------|
| If a person become mentally ill once they easily become ill again | | |
| Strongly agree | 22 | 4.8 |
| Agree | 139 | 30.5 |
| Undecided | 49 | 10.8 |
| Disagree | 187 | 41.1 |
| Strongly disagree | 58 | 12.7 |
techniques has been given to the data collectors and supervisors. The other limitation of this study is lack of published article on the subject to compare our finding with specifically for the factors associated with the disease. Notwithstanding these limitations, we believe that our study has very important findings for strengthening mental health service provision in the study area and areas with similar set up.

**Conclusion**

The study found out that more than half urban health extension professionals' knowledge towards mental illness appear to be inadequate. It is evidence that most of them did not have the opportunity to be exposed to refresher courses related to mental health/illness. In addition to this, a significant proportion of UHEPs in this study had poor attitude towards mental illness. Despite their poor attitude, they happen to had good practice in providing mental health service around referral, follow up and counseling of mentally ill people in the community. Age, educational status and personal history of MI of urban health extension professionals were associated with knowledge and job-aids and knowledge were associated with mental health service provision. Therefore, provision of basic and refresher trainings to urban health extension professionals is vital to strengthen evidence based medical diagnosis and prevention, also to fully
implement the national mental health strategy and maximize the opportunity of the UHEPs at the community level to improve the burden of mental health problem. Moreover, proper clinical supervision and support are also important to improve behavioral change. Besides, further study needs to be conducted to explore how job-aids influence the attitude and practice of UHEPs toward mental illness.

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Competing interests

The authors declare that they have no competing interests.

Availability of data and materials

All data generated or analyzed during this study are included in this article.

Consent to publish

Not applicable.

Ethics approval and consent to participate

The ethical clearance was sought from Jimma University, Institute of Health Ethics review board. Then a letter of cooperation was obtained from Addis Ababa City Administration Health Bureau. The study participants were briefed about the objective and purpose of the study and their rights of not to participate in the study. Accordingly, verbal consent was obtained from each study participant through the attached form at the beginning of each questionnaire for easy understanding and access. Moreover, confidentiality of all and partial participant information that have collected was assured.

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Authors’ contributions

EA involved in conception, designing methods, analysis, interpretation and drafting of the manuscript. FA and HM participated in designing, data analysis, interpretation of the findings and write up of the findings. All authors read and approved the final manuscript.

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Abbreviations

FMOH: Federal Ministry of Health; HEP: Health Extension Program; MhGAP: Mental Health Gap Action Program; UHEPs: urban health extension professionals; WHO: World Health Organization.

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