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Beliefs about students' mental health issues among teachers at elementary and high schools, Hail Governorate, Saudi Arabia

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Abstract

Background: Teachers' awareness about and attitude towards students' with mental health issues are often affecting their practical role in proper care of students with mental health problems. This is a cross-sectional study carried out among teachers in elementary (primary and middle) and secondary schools in Hail Governorate, Kingdom of Saudi Arabia (KSA). The objective of the study was to assess teachers' awareness about and attitude towards student's mental health issues through a response to a pretested constructed, semi-structured, anonymous self-administered questionnaire included 38 items.

Results: Consenting teachers returned 2398 completed questionnaires with response rate of 60.0%. Majority of respondents possessed favorable attitudes towards students with mental health issues attained 74.7% attitude score on a scale of maximum 55 points but revealed less awareness with students' mental health issues; they just attained 55.1% awareness score.

Teachers acknowledged the importance of providing training programs regarding mental health issues for teachers (73.7%) and for other school staff (76.2%), availability of psychologist in schools (81.1%), providing schools with educational materials regarding students' mental health (78.1%), providing telephone hotline to support dealing with students' with mental health issues (78.5%), and promoting general media to increase community awareness with mental health (84.4%).

Conclusion: The current study gives insight to policy makers about teachers' awareness and attitude they have towards mental health issues in schools. Training programs in mental health appear to be crucial for teachers. Providing enough resources for schools to support their roles in mental health will advance healthy development in children.

Keywords: Attitude, Awareness, Mental illness, School teachers

Background

Mental health issues are a concern worldwide [1]. The majority of mental health problems emerge in early life with over half appearing before the age of 14 [2]. Almost 10% of children and young people (aged 5–16 years) have a clinically diagnosable mental problem [3], and

20% of adolescents may experience a mental health problem in any given year [1]. All over 10% have a mental health challenge that is severe enough to impair how they function at home, school, or in the community [4].

Students with mental health difficulties are less likely to benefit from academic instructions [5], more likely to experience lower academic achievement, and less school engagement and participation [6, 7]. Yet, 70% of children and adolescents who experience mental health problems

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have not had appropriate interventions at a sufficiently early age [8].

In KSA, despite no nationwide reports about the burden of mental health problems among children and adolescents, yet some reports carried out on subgroups of population indicated prevalence 36.3–48.0% [9–13]. Among other several indicators addressing prevalent health problems among nationally representative sample of adolescents in adolescents in which symptoms suggestive of depression and anxiety were found to be present among 14 and 6.7%, respectively [14].

As the primary contexts in which children live and learn, schools are prime settings for early detection and intervention strategies for mental health problems among children and adolescents [15]. Teachers play an important role in identifying students with mental health issues who present with clinical or subclinical symptoms [15]. Their constant interactions with students and spending the most significant amount of time with them enable them to spot early signs of mental health issues and assist in referring students to proper mental health professionals for further assessment and diagnosis and closing the gap between onset of symptoms and initiation of treatment [16, 17].

There is no doubt that teachers' belief, attitude, knowledge, and perceptions regarding mental health issues influence their behavior in the classroom. If teachers have an unfavorable attitude toward their role as a mental health assessor, it is unlikely that they will assess for and refer students with mental health needs [18, 19].

Assessing awareness and understanding educational staff beliefs about mental health issues affords policy makers information that can aid in improvement of their training and adoption of interventions in schools to advance healthy development in children. Therefore, the purpose of the current study is to examine teachers' awareness about and attitude towards mental health issues in students; their assessment regards the magnitude of mental health problem among their students and their views to promote awareness with mental health issues in their schools.

Methods

Study design and location

A cross-sectional study among classroom teachers in regular schools, in Hail Region, Kingdom of Saudi Arabia KSA, was carried out during January to May 2018. The region is located at the north of the country in nine governorates with an area of 103,887 km² and an estimated population of 684,619 (2016) [20] [A11].

Participants

Classroom teachers at elementary (primary and middle) and higher (secondary) schools, in Hail Governorate,

were the target population of the study. Primary schools in Saudi Arabia enroll children at the age 6–11 years, while middle and secondary schools enroll age groups 12–14 and 15–17 years, respectively. Non-classroom teachers and other operating staff were not included.

Sampling

Among the nine governorates in Hail Region, Hail Governorate was chosen since it encompasses the majority of the population in the region, with population weight 60.7% according to the last census in 2010 [20]. To ensure representativeness, 50% of schools were systematically randomized from a list of all schools in the governorate ($n = 420$; 391 public and 29 private) [21], with 10% more schools to compensate for refusal to participate ($n = 231$). All teachers in the contributed schools present at the time of the survey were invited to participate in the study. Four thousand questionnaires distributed to invited teachers.

Data collection tool

An anonymous, self-administered, pre-coded, semi-structured questionnaire was used to assess awareness, attitude, and practice of the survey participants towards students with mental health issues. Mental health issues were operationally defined for participants as "any psychological, social, emotional, or behavioral problem that interfere with the students' ability to function." The content of the questionnaire was developed based on extensive review of literature and related surveys.

Data collection tool included five sections. First section involved six items to characterize socio-demographic aspect of the participants. Second section included seven items to explore teachers' awareness with mental health issues of the students. Third section included 11 statements to explore participants' attitude towards these problems and one statement to assess their views regarding adequacy of mental health services provided their students. Fourth section included six statements to rate participants' views regarding ways to increase mental health awareness of school staff. The last section of the questionnaire included three questions to assess participants' estimates of the average school class densities, average students with mental health issues, and average number of students referred for mental health counselling service.

A pilot test for the data collection tool was carried out on 20 teachers, including 10 male and 10 female teachers, equally divided to represent elementary and high schools. Face and content validity of the questionnaire was established based on input solicited from four experts in the field of psychiatry and education with experience in students' mental health. Internal consistency was assessed using Cronbach's alpha test. The test

indicated high internal consistency (0.78) for the subset of items included in the scale to ascertain teachers' awareness with mental health issues among students, 0.69 for the subsets of the items included in the scale to ascertain their attitude and 0.73 for the overall items of the questionnaire.

Questionnaire administration

The data collection took place between January and May 2018. Twelve trained coordinators (last year medical college students) distributed questionnaires to the participants (one for each school). Before questionnaire administration, coordinators gave a briefing on the aims of the study, emphasized the right of non-participation, and confidentiality of the process. Participants were asked not to disclose their identity to assure them that this survey was only for academic purposes. Completed questionnaires were collected from each school after 2 days of distribution.

Statistical analysis

Data was analyzed using the Statistical Package for the Social Sciences (SPSS) software, version 23.0 (SPSS, Chicago, IL, USA). Frequencies and percentages, means, and standard deviations were used to summarize data. Logistic regression analysis was applied to determine factors associated with teacher's favorable attitude.

Two scoring systems were developed; the first to summarize participants' responses to the seven questions exploring teachers' awareness with mental health issues in students and the other to summarize responses to the 11 statements assessing their attitude. For awareness questions, a scoring system was assigned for the included items ranged from 1 for not aware at all to 5 for completely aware responses. For attitude statements, a 5-point Likert score was used to record participants' responses from 1 completely disagree to 5 for completely agree.

Two scales were created for awareness and attitude domains with points attributed for each question/statement, with maximum score of 35 and 70 points for awareness and attitude, respectively. To confirm whether the participants had higher awareness or better attitude, responses above median estimates were considered as an indication for better awareness or favorable attitude.

Teachers' "awareness" and "attitude" towards students' mental health issues as outcome variables were analyzed with binary logistic regression against the independent variables and possible confounders. Any variable resulting in a value ≤ 0.25 in the univariate analysis was included in the multivariable model. Variables included in the model were then subjected to a final backward elimination procedure on $p = 0.05$ to reveal the significant independent predictors. Results of logistic regression analysis were presented as odds ratios (ORs) and 95%

confidence intervals (CIs). A two-sided p value for all tests < 0.05 was considered significant.

Results

Sample characteristics

Out of 4000 questionnaires distributed to teachers present at the time of the survey, 2398 questionnaires returned complete with response rate of 60.0%. Respondents from primary, middle, and secondary schools were 1128 (47.0%), 661 (27.6%), and 609 (25.4%), respectively (Table 1), with no significant difference ($\chi^2 = 2.53$, $df = 2$; $p = 0.282$) compared to the original population [21]. In these schools, females (1262) constituted 52.6% of the sample, while males (1136) constitute 47.4%. More than half (55.9%) of the sample were middle aged in the age group 30–39 years; 14.7% were youngers (< 30 years), while about 30% (29.4%) were senior staff 40 years or older. The mean (SD) of participants' experience was 14.0 (7.31) years, with about two third (67.0%) of the participants have 10 years' experience or more. Most participants (81.6%) were married, while unmarried (singles, divorced, or widowed) constituted 18.4%. Almost half of the participant teachers (854; 51.3%) were teaching science and mathematics subjects, whereas 811 (48.7%) were teaching humanitarian subjects (language, art, religion, etc.) (Table 1).

Teachers' estimates for prevalence and referral of students with mental health problems

The participants reported as a self-estimate of a class mean (SD) densities of 21.1 (8.5) students per class, which is comparable to the actual official estimate of 22.1 students per class [21]. Participants claimed a self-estimate of mean (SD) 1.8 (2.4) to have mental health problems among students per class, which indicates 8.5% prevalence. No significant gender difference was reported regarding mental health issues among students ($t = 1.877$; $p = 0.061$). Teachers' estimates about students with mental health issues significantly increased with the school level. A statistically significant trend for mean estimates was observed (1.55 ± 1.88 , 1.86 ± 2.01 , and 2.35 ± 3.27 ; $p < 0.001$) for primary, middle, and secondary schools, respectively. Participants reported referral of average mean (SD) 1.4 (2.37) students per class.

Teachers' awareness about students' mental health issues

Teachers having higher awareness about student's mental health, self-judged better estimates of average number of students with mental health issues per average class than less aware teachers (2.02 ± 2.50 vs 1.62 ± 2.21 ; $t = 3.336$; $p < 0.001$), and transferred more students for mental health counselling (1.60 ± 2.55 vs 1.15 ± 2.030 ; $t = 3.872$; $p < 0.001$) (not shown in tables).

Table 1 Teachers' background information and school characteristics ($n = 2398$)

Characteristic	Percentage (%), n or mean SD
Age in years ($n = 2336$)	
< 30	14.4 (337)
30–39	56.4 (1318)
≥ 40	29.2 (681)
Mean (SD)	36.9 (6.73)
Gender ($n = 2398$)	
Male	47.4 (1136)
Female	52.6 (1262)
Marital status ($n = 2398$)	
Married	85.3 (2045)
Single/divorced/widowed	14.7 (353)
Teaching experience (years) ($n = 2224$)	
> 5	12.8 (285)
5–9	20.1 (448)
≥ 10	67.0 (1491)
Mean (SD)	14.0 (7.31)
Teaching specialty ($n = 1665$)	
Science subjects	51.3 (854)
Humanitarian subjects (art, language, realign, etc.)	48.7 (811)
School teaching level	
Primary elementary	47.0 (1128)
Middle elementary	27.6 (661)
Secondary	25.4 (609)
School type ($n = 2398$)	
Public	86.4 (2072)
Private	13.6 (326)
Average students per class^a ($n = 1823$)	
> 20	32.7 (596)
20–29	46.5 (847)
≥ 30	20.8 (380)
Mean (SD)	21.14 (8.54)
Average psychiatric students per class^a ($n = 1681$)	
0	28.9 (486)
1–2	47.3 (795)
≥ 3	23.8 (400)
Mean (SD)	1.84 (2.37)
Average psychiatric students transferred for counselling per class^a ($n = 1694$)	
0	47.5 (804)
1–2	34.8 (590)
≥ 3	17.7 (300)
Mean (SD)	1.41 (2.37)
Adequacy of school mental health services ($n = 2331$)	
Teachers' agreement (positive responses)	13.6%

^aParticipant's self-estimation

Teachers were asked on a 5-point Likert scale ranging from (1) not aware at all to (5) completely aware to rate their own levels of awareness surrounding student mental health issues (Table 2). A modest percent of the participants reported being aware/completely aware in all of the seven items exploring their awareness with students' mental health issues. Less than one quarter (22.5%; $M = 3.0$, $SD = 0.92$) reported having enough information about symptoms and signs of mental health problems among students; 21.6% ($M = 3.0$, $SD = 0.87$) reported having enough information about causes and 23.1% ($M = 2.9$, $SD = 0.99$) about risk factors of mental health disorders. Only about one in fifth (21.9%; $M = 2.8$, $SD = 1.00$) of the participants having enough information about mental health services available to students in schools and (19.5%; $M = 2.8$, $SD = 0.95$) in the community. Participants reported a severe deficiency in their knowledge about psycho-behavioral interventions (11.7%; $M = 2.4$, $SD = 0.97$) or having enough information about the system followed in dealing with students' with mental health illness (10.9%; $M = 2.3$, $SD = 0.94$). Calculation of the total awareness score for the seven awareness items indicates a median (mean \pm SD) 19 (19.2 ± 4.70), attaining 54.9% on the maximum attitude score of 35 points, which is close to the midpoint.

Teachers' attitude towards students' mental health issues

Teachers were asked, on a 5-point Likert scale ranging from (1) completely disagree to (5) completely agree, to rate their own beliefs about mental health issues (Table 3). Majority of the participants (92.3%; $M = 4.2$, $SD = 0.92$) reported completely agree/agree believing in psychiatric illness, accepting psychiatric patient, and helping them (87.8%; $M = 4.1$, $SD = 0.81$), with more than 70% (71.7%; $M = 3.7$, $SD = 1.08$) equally see psychiatric patient as other patients with organic diseases. Most participants (87.2%; $M = 4.2$, $SD = 0.93$) recommended visiting a psychiatric physician when having psychiatric problem. About three quarter (74.6%; $M = 3.9$, $SD = 1.04$) of the participants think that narcotic and stimulant drugs and alcohol have a role in psychiatric illness. Less than half of the participants (44.4%; $M = 3.1$, $SD = 1.11$) believe that heredity has a role in psychiatric illness. Less than one in fifth (19.7%) completely disagree/disagree that psychiatric drugs can cause addiction. A minority of the participants (13.4%) believe that psychiatric illness is merely a mix of magic and eye. More than 80% (82.0%) of the participants completely disagree/disagree that psychiatric diseases are incurable, being a permanent stigma (76.1%), or considering psychiatric patient is a dangerous person and should be taken with care (66.1). Taking in consideration a reverse scoring for items 4, 5, 9, 10, and 11, the total attitude score for the 11 attitude items has a median (mean \pm SD) 42 (41.6 ± 5.01), attaining 75.6% on the maximum attitude

Table 2 Teachers' awareness about students' mental health issues

Statement	Responses % (n)					Score mean (SD)
	Not aware at all	Not aware	Somewhat aware	Aware	Completely aware	
1. I have enough information about risk factors of student's mental health problems. (n = 2377)	9.5 (225)	16.9 (402)	50.5 (1200)	16.3 (388)	6.8 (162)	2.9 (0.99)
2. I have enough information about causes of mental health problems. (n = 2371)	5.4 (129)	19.0 (451)	54.0 (1280)	17.3 (409)	4.3 (102)	3.00 (0.87)
3. I have enough information about psycho-behavioral interventions. (n = 2359)	16.7 (395)	37.8 (892)	33.8 (797)	8.6 (203)	3.1 (72)	2.4 (0.97)
4. I have enough information about psychological health services in the community. (n = 2326)	8.7 (202)	31.2 (726)	40.6 (945)	15.6 (362)	3.9 (91)	2.8 (0.95)
5. I have enough information about the system concerned with dealing with psychiatric patients. (n = 2372)	17.5 (416)	44.6 (1058)	27.0 (640)	8.6 (203)	2.3 (55)	2.3 (0.94)
6. I have enough information about symptoms and signs of psychological diseases among students. (n = 2380)	6.6 (156)	18.4 (439)	52.5 (1249)	16.4 (390)	6.1 (146)	3.0 (0.92)
7. I have enough information about school psychological health services available to students. (n = 2326)	12.2 (284)	24.3 (566)	41.6 (968)	18.2 (423)	3.7 (85)	2.8 (1.00)
Total score ^a						
Median (range)	19 (7.0–35.0)					
Mean (SD)	19.2 (4.70)					
Total score/full score (%)	54.86%					

^aMaximum score = 35

score of 55 points, which indicate an overall positive attitude of the participants regards mental health issues.

Factors associated with teacher's favorable attitude and higher awareness about mental health issues in students

Logistic regression analysis (Table 4) was applied to determine factors associated with teacher's favorable attitude. Univariate analysis revealed that teachers' older age, male gender, married, longer teaching experience, teaching humanitarian subjects, employed in middle school, working in private school, have a good judge about the prevalence of mental health issues among students, and having higher awareness about mental health issues were positively associated with teachers' favorable attitude. Controlling for other independent variables and confounding effect, multivariate logistic regression model (Table 4) predicted that male gender (OR 1.36; 95% CI 1.08–1.72), longer experience (OR 1.70; 95% CI 1.14–2.55), teaching humanitarian subjects (OR 1.27; 95% CI 1.01–1.60), teaching in private school (OR 2.09; 95% CI 1.43–3.04), and teachers possessing higher awareness to students' mental health issues (OR 1.55; 95% CI 1.23–1.95) to be independently associated with teachers' favorable attitude.

Logistic regression analysis (Table 4) was applied also to determine factors associated with teacher's better awareness. Univariate analysis revealed that teachers' older age, male gender, longer teaching experience > 10 years, teaching humanitarian subjects, working in private school, having a good judge about the prevalence of

mental health issues among students, and having favorable attitude towards students' mental health issues were positively associated with teacher's good awareness. Applying multivariate logistic regression analysis (Table 4) controlling for other variables and confounding effect, the following factors were found to be independently associated with teachers' good awareness: male gender (OR 1.56; 95% CI 1.25–1.94), teaching in private school (OR 2.38; 95% CI 1.66–3.41), having a good judge about the prevalence of mental health issues among students (OR 1.52; 95% CI 1.13–2.05), and teacher's favorable attitude towards students' with mental health issues (OR 1.97; 95% CI 1.43–2.23).

Teachers rating for ways to promote awareness with students' mental health issues in schools

On a scale of 1 (not important at all) to 5 (very important), study participants in Table 5 rated a list of suggested ways to raise awareness with mental health issues in schools in the following ranking: the importance of general media to increase community awareness with mental health (84.4%; $M = 4.2$, $SD = 1.03$), availability of psychologist in school (81.1%; $M = 4.1$, $SD = 1.06$), equipping schools with audiovisual/print materials endorsing student's mental health (78.1%; $M = 4.0$, $SD = 1.12$), availability of hotline telephone support (78.5%; $M = 4.0$, $SD = 1.13$), conducting workshops on mental health in schools to all staff (76.2%; $M = 3.9$, $SD = 1.16$), and training programs targeting teachers (73.7%; $M = 3.8$, $SD = 1.28$).

Table 3 Teachers' attitude towards students' mental health issues

Statement	Responses % (n)					Score mean (SD)
	Completely disagree	Disagree	Uncertain	Agree	Completely agree	
1. I believe in mental health illness. (n = 2391)	4.7 (112)	1.3 (31)	1.8 (42)	52.4 (1252)	39.9 (954)	4.2 (0.92)
2. I accept mental health patients and I help them. (n = 2384)	1.0 (25)	4.4 (106)	6.7 (160)	54.9 (1308)	32.9 (785)	4.1 (0.81)
3. When having mental health problem, I recommend visiting a psychiatric physician. (n = 2382)	3.3 (78)	3.3 (78)	6.3 (150)	45.1 (1074)	42.1 (1002)	4.2 (0.93)
4. I see that psychiatric medications can cause addiction. (n = 2350)	6.3 (147)	13.4 (316)	37.4 (879)	26.7 (628)	16.2 (380)	^a 2.7 (1.09)
5. I believe that mental illness is merely a mix of magic and eye. (n = 2352)	29.0 (681)	34.1 (802)	24.6 (578)	9.7 (228)	3.7 (63)	^a 3.8 (1.05)
6. I think that narcotic and stimulant drugs and alcohol have a role in psychiatric illness. (n = 2380)	3.9 (94)	6.1 (146)	15.3 (365)	42.0 (1000)	32.6 (775)	3.9 (1.04)
7. I believe that heredity have a role in mental health illness. (n = 2358)	9.4 (225)	19.4 (457)	26.8 (631)	36.3 (855)	8.1 (190)	3.1 (1.11)
8. I see that mental health patient as other patients with organic diseases. (n = 2337)	4.9 (115)	11.4 (267)	12.0 (281)	49.0 (1144)	22.7 (530)	3.7 (1.08)
9. I believe that mental health illnesses are incurable. (n = 2354)	39.8 (933)	42.2 (990)	10.5 (247)	6.0 (140)	1.5 (35)	^a 4.1 (0.93)
10. I believe that mental health illness is a permanent stigma. (n = 2380)	34.0 (810)	42.1 (1001)	12.9 (308)	8.5 (202)	2.5 (59)	^a 4.0 (1.02)
11. I believe that psychiatric patient is a dangerous person and one should be taken with care. (n = 2380)	25.0 (594)	41.1 (978)	12.8 (304)	17.5 (416)	3.7 (88)	^a 3.7 (1.14)
Total score ^b						
Median (range)	42 (23.0–55.0)					
Mean (SD)	41.6 (5.01)					
Total score/full score (%)	75.64%					

^aReverse score^bMaximum score = 55

Discussion

Teachers are the cornerstone in the strategy of early detection of clinical and subclinical mental health disorders among students and early referral to the specialized health care. They should know the resources to support students' mental health in their schools and community [15–17].

This study examined teachers' awareness about and attitude towards mental health issues in students; their assessment regards the magnitude of mental health problem among their students and their views to promote awareness with mental health issues in their schools.

The study revealed a deficient mental health services in schools as reported by the participant teachers. A modest percent (13.6%) of teachers agreed that school mental health services are adequate. This situation indicates the need to assess these services in terms of availability, accessibility, utilization, resources adequacy, and acceptability.

Participants in our study self-estimated a prevalence of 8.7% for mental health disorders among their students, which is lower than the global prevalence (10–20%) [2, 3] and far away from the reported prevalence (36.3–

48.0%) in local studies in KSA [9–14] and in other neighboring countries [22–24]. This self-estimate, of course, is largely affected by their awareness and self-efficacy in recognizing the manifestation of students' mental disorders. Teachers with better awareness about students' mental health issues in the present study significantly recognized more students with mental health problems in their classes and referred more students to specialized mental health counselling. However, unfortunately, those teachers who rated having sufficient knowledge about symptoms and signs of mental disorders are minority (24.3%). Almost half of the participants (52.5%) rated as close as midpoint (somewhat) of the awareness scale. This low self-efficacy of the participants in our study in recognizing mental health problems among students is also consistent with other studies [25–27]. This may be interpreted as some authors explained that, although teachers have some experience with mental health in their classrooms, they may feel mental health training is not fully prepared them to take on a provision role [27]. These results point to the critical need to include mental health courses in teacher preservice and in-service training in order to increase their knowledge

Table 4 Logistic regression analyses for teachers' background information and school characteristics associated with better attitude and higher awareness about mental health issues in students

	Better attitude ^a		Higher awareness ^b	
	cOR (95% CI)	aOR (95% CI)	cOR (95% CI)	aOR (95% CI)
Age in years				
< 30	1		1	
30–39	1.13 (0.88–1.46)		0.74 (0.58–0.95)*	
≥ 40	1.49 (1.13–1.96)**		0.78 (0.59–1.03)	
Gender				
Male	1.37 (1.15–1.62)***	1.36 (1.08–1.72)**	1.90 (1.61–2.25)***	1.56 (1.25–1.94)***
Female	1	1	1	1
Marital status				
Single	1		1	
Married	1.58 (1.24–2.01)***		1.19 (0.94–1.51)	
Teaching experience (years)				
> 5	1	1	1	
5–9	1.26 (0.93–1.73)	1.70 (1.14–2.55)**	0.82 (0.60–1.12)	
≥ 10	1.37 (1.05–1.79)*	1.49 (1.06–2.09)*	0.76 (0.59–0.99)*	
Teachers' academic discipline				
Math and natural science	1	1	1	
Humanities and social	1.34 (1.09–1.64)**	1.27 (1.01–1.60)*	1.24 (1.01–1.52)*	
School teaching level				
Primary elementary	1		1	
Middle elementary	0.79 (0.64–0.97)*		0.85 (0.70–1.04)	
Secondary	0.89 (0.77–0.72)		0.87 (0.70–1.06)	
School type				
Public	1	1	1	1
Private	1.85 (1.43–2.39)***	2.09 (1.43–3.04)***	2.72 (2.07–3.57)***	2.38 (1.66–3.41)***
Teacher's self-estimate of average number of students with mental health problems per class				
0	1		1	1
1–2	1.33 (1.04–1.69)*		1.45 (1.15–1.83)**	1.26 (0.98–1.62)
≥ 3	0.92 (0.69–1.21)		1.63 (1.24–2.15)***	1.52 (1.13–2.05)**
Teacher's higher awareness with mental health issues[#]				
Below median	1	1		
Above median	1.86 (1.55–2.22)***	1.55 (1.23–1.95)***		
Teacher's better attitude towards mental health issues^{##}				
Below median			1	1
Above median			1.86 (1.55–2.22)***	1.79 (1.43–2.23)***

Abbreviations: cOR crude odds ratio, aOR adjusted odds ratio, CI confidence interval

^aFinal -2*Log-Likelihood: 1690.02; Likelihood Ratio: 54.70; Model P-Value: < 0.001

^bFinal -2*Log-Likelihood: 1874.44; Likelihood Ratio: 93.99; Model P-Value: < 0.001

* < 0.05; ** < 0.01; *** < 0.001

[#] Better Attitude= above median score (Median=42 points out of maximum score of 55 points)

^{##} Higher Awareness= above median score (Median=14 points out of maximum score of 35 points)

in dealing with students' mental health issues. Previous studies had shown that in order for teachers to recognize students with mental health issues, they need professional development to have the awareness, knowledge, and skills [16, 26, 28, 29].

In a systematic review, exploring the state of teachers' understanding and knowledge about mental health issues in students, Whitley et al. (2013) found that majority of teachers felt that professional development in the area of student mental health was needed. He concluded

Table 5 Teachers' rating for the level of importance of proposed measures to promote awareness with mental health issues

Item	Responses % (n)					Score mean (SD)
	Not important at all	Not important	Somewhat important	Important	Extremely important	
1. Training programs targeting teachers. (n = 2343)	6.2 (145)	18.0 (421)	2.2 (51)	36.1 (846)	37.6 (880)	3.8 (1.28)
2. Availability of psychologists in schools to provide mental health counselling services. (n = 2854)	1.8 (41)	12.0 (281)	5.1 (119)	35.8 (839)	45.3 (1061)	4.1 (1.06)
3. Workshops in mental health for all school staff should be carried out. (n = 2321)	5.1 (118)	12.8 (296)	5.9 (138)	42.3 (982)	33.9 (787)	3.9 (1.16)
4. Equipping schools with audiovisual and print materials to help promote student's mental health. (n = 2337)	3.8 (66)	14.1 (329)	5.0 (118)	40.4 (943)	37.7 (881)	4.0 (1.12)
5. Providing telephone hotline to support dealing with acute mental health problems. (n = 2339)	4.0 (93)	11.7 (273)	5.8 (136)	38.6 (903)	39.9 (934)	4.0 (1.13)
6. General media should increase community awareness with mental health. (n = 2336)	2.3 (54)	8.6 (200)	4.7 (110)	31.5 (737)	52.9 (1235)	4.2 (1.03)

that ongoing professional learning for teachers and all school staff is clearly warranted and should increase teachers' understanding on the nature of mental health issues and practical strategies to deal with issues when they occur [16].

In a cluster randomized trial done by Jorm et al. in 2010, mental health training showed increased knowledge, changed beliefs about treatment, reduced stigma, and increased confidence in providing help to students and colleagues, and most of these changes found to be sustained 6 months after training [26].

Not only teachers' awareness with symptoms and signs of mental health disorders among students is important but also equally important is to know the specialized mental health care services available in their schools and community and systems of their utilization. Most participants in our study reported to have severe deficiency in this area. Almost one in five (21.9%) of the participant teachers reported to have enough information about mental health services available in their school, and only 19.5% have information about these services in the surrounding community, with almost all participants do not know how to utilize these services (10.9%). A finding also reported in other studies [27, 30]. This situation denotes how much important to aware teachers and other school staff with the mental health care resources available to students and the pathway of referral to the available specialized health care.

An encouraging result in our study is the favorable attitude among participants towards students' with mental health issues. Participants attained a mean score 41.6 (75.6%) on a scale with 55 points. This is promising in that it indicates sincerity for teachers to accept and be benefited from mental health training programs and implementing behavioral interventions in their classroom.

However, despite this overall positive attitude of the participants, important negative points should be pointed to and should be addressed in teachers' training programs. More than 80% of the participants (80.3%) believed or uncertain that psychiatric medications are causing addiction. This may hesitate some teachers to early refer students with mental health illness to the specialized care, hoping in self-remission of the condition.

Our study revealed a strong association between teachers' better awareness and their favorable attitude towards students' mental health issues. Every aspect was independently predicted the other in multivariate logistic regression analysis controlling for other independent variables. This indicates the independent effect for good knowledge on the individual attitude and that favorable attitude encourages knowledge seeking behavior.

Teacher's longer experience among study participants was associated with higher awareness as well as independently associated with better attitude towards students' mental health issues. This finding frequently reported in other studies suggesting that classroom experience is a major source of knowledge for teachers in as regards students' mental health [31]. Expert teachers are more sensitive to the classroom contexts [32]; they are better able to read students' emotional and behavioral needs and may also raise confidence in handling emotional and behavioral problems.

Gender variation in teachers' awareness and attitude was noticeable in the present study; male teachers independently showed better awareness and more favorable attitude towards students' mental health issues, which is not in line with some other studies, reporting the opposite [33]. This could be explained in our situation in a traditional community in northern Saudi Arabia by the more proactivity of the male teachers and have more

access to training and other resources than female teachers do. Likewise, male teachers in the present study were exposed to higher number of students with mental health issues (OR 1.48; 95% CI 1.20–1.83; $p < 0.001$), which give them more experience, better understanding, and more self-efficacy in dealing such cases [31].

Teachers in private schools, independently, were more aware and have better attitude towards students with mental health issues compared to teachers in public schools. This may be explained by more suitable work conditions, less workload, and number of students in the classroom.

Of particular interest was identifying that teachers' academic discipline was independently affecting teachers' attitude towards students with mental health issues. Participants teaching natural sciences and mathematics were less likely to have favorable attitude towards students with mental health issues compared with participants teaching humanities and social disciplines; a finding also found in some reports [34] and needs more exploration.

More than three quarter of the participant teachers in our study highly scored as important/extremely important all the six proposed measures to promote awareness with mental health issues in schools. These proposed measures included provision of training programs targeting teachers and other school staff, availability of psychologist in school, equipping schools with mental health promotion materials, availability of telephone hotline to support dealing with student's acute mental health problems, and enhancing community awareness with mental health through general media. It was not surprising that participant teachers ranked high the suggestion of availability of psychologist in school. This indicates that teachers are recognizing their deficient capacity to monitor mental health issues among their students and the intervention strategies to apply so that they are in need for expert staff to support them for efficiently practice their role.

Conclusion

The results of the study showed that despite the favorable attitude of teachers within the targeted population towards students with mental health issues, they reported having limited information about most aspects needed to for early detection, dealing with and referral for specialized mental health counselling available in their schools and community. Preservice and ongoing professional learning for teachers is crucially needed to increase teachers' understanding on the nature of mental health issues, enable them to early spot signs of mental illness, and assist in referring students to proper mental health professionals and close the gap between onset of symptoms and initiation of treatment.

Study limitation

Despite many strengths in our study, especially the large sample size and including schools of both gender, some limitations may be encountered. First, the entire sample was taken from Hail Governorate, which is mostly an urban population; therefore, findings of this study might not be generalized to other areas especially in rural setting. Second, aiming to assess participants' views regarding strategies might help to promote awareness with mental health issues in schools, participants, and rated six proposals in a closed list, therefore, restricted their chance to include some other suggestions may be of importance. Third, the study focused on teachers self-rating, which may not draw the actual conclusions about real interactions of teachers in their classroom. Lastly, we did not explore student's views as regards interactions with their teachers in classroom, in order to gain wider view about the situation of mental health issues in schools. This will be the scope in the future research. Despite these limitations, we think that the study gives insight about teachers' awareness and attitude towards mental health issues in schools; especially, there is no research covered this important area in Hail Region, Saudi Arabia.

Abbreviation

KSA: Kingdom of Saudi Arabia

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Authors' contributions

AK contributed in study concepts, design, literature search, data analysis, manuscript preparation, editing, and review. HK contributed in study concepts, design, literature search, statistical analysis, and manuscript preparation. TM contributed in study concepts, literature search, and data acquisition. AS contributed in study concepts, literature search, and data acquisition. NA contributed in study concepts, literature search, and data acquisition. All authors have read and approved the manuscript.

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Availability of data and materials

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

The protocol of the study was reviewed and approved by the Research and Ethical Committee of the Psychiatric hospital in Hail Region, KSA (Committee's reference number: 1439-02-103). Research and Ethical Committee approved to obtain verbal informed consent from all participants as committee members considered participation, and replaying questionnaire from participants were a consent; also, anonymity and confidentiality of the responses were maintained and voluntary participation and the right to non-participation emphasized. A prior permission for the research proposal and data collection tool obtained from the local education authority in Hail Region and individually from each participated school in the survey.

Consent for publication

Informed consent includes agreement for publication.

Competing interests

The authors declare that they have no competing interests.

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