Original article

# Prevalence and associated factors of social skills deficits in patients with depressive disorders at Psychiatric Outpatient Department, King Chulalongkorn Memorial Hospital

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***Background:*** Social skills deficits are present in 43.3% of the depressed patients, significantly impact the quality of life and may result in severe and chronic depression. However, studies concerning social deficits in Thai depressed patients were still limited.
***Objective:*** To determine the prevalence and associated factors of social skills deficits of Thai patients with depressive disorders. The associated factors included severity of depression, satisfaction with family function, self-esteem, and personality characteristics.
***Methods:*** We recruited 150 patients aged 18 years and above diagnosed with major depressive disorder or persistent depressive disorder (dysthymia) using DSM-5 criteria. All subjects completed 5 questionnaires: 1) Beck Depression Inventory-II (BDI-II) - Thai version; 2) Social Skill Inventory (SSI) - Thai version; 3) Family Adaptation, Partnership, Growth, Affection, Resolve (APGAR) Questionnaire; 4) Revised Version of Thai Rosenberg Self-Esteem Scale (Revised Thai RSES); and, 5) Maudsley Personal Inventory (MPI). Logistic regression was performed to identify the potential predictors of social skills deficits.
***Results:*** The prevalence of social skills deficits in depressed patients was 46.7%. The mean score of social skills was 78.1 ± 16.5. Factors associated with social skills deficits were being female, age under 40 years ($P < 0.05$), moderate-to-severe level of depression, low-to-moderate satisfaction level of family function, low level of self-esteem, introvert personality, and neurotic personality ($P < 0.01$). By logistic regression analysis, the significant predictors of social skills deficits were introvert personality ($P < 0.01$) and the moderate-to-severe level of depression and neurotic personality ($P < 0.05$).
***Conclusion:*** Social skills deficits were quite high in depressed Thai patients. The severity of depression and introvert personality were significantly associated with the patients' social skills. The social skills enhancing program may help reduce patients' depressive symptoms.

***Keywords:*** Social skill deficits, depressive disorder, introvert personality, neurotic personality.

Depression is a common psychiatric disorder. The lifetime prevalence was found between 5.0 - 17.0% (average 12.0%).[1] According to the 2004 World Health Organization study, depression was the world's third leading cause of disabilities[2] and was likely to rank second after ischemic heart disease in 2020 and predicted that by 2030 it will become the number one cause.[3] Depression is caused by biological and psychosocial factors leading to a variety of treatment methods, including medicines, electroconvulsive therapy (ECT), cognitive behavioral therapy (CBT), interpersonal psychotherapy (IPT) and other different forms of psychotherapy.[4] From previous studies, it was found that people who experienced severe life stress, people who lack good relationships or social skills may be at risk of depression. Social factors are, also one of the important factors related to depression.[5]

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According to study by Weissman MM, *et al*.[6], interpersonal issues, including social skills deficiencies were associated with the occurrence of depression. Also, it was found that social skills deficiencies were one of the important symptoms and a major impact of the illness on the patient's life, including family, academic, work and social responsibilities, resulting in severe depression and chronicity due to being unable to adjust their lives after suffering from depression. Depressed patients often of lack social skills and good social support, because of low self-esteem, feelings of helplessness and worthlessness and feel undeserving to do what they want and cannot maintain to do things that they want. Also, depressed patients have difficulties in various social situations due to fear of rejection and fear of criticism from others, so they have difficulty in communicating and expressing their feelings with other people clearly and openly, causing others not to understand and unable to meet the needs of patients.[4]

Social skills deficits were present in 43.3% of patients with major depressive disorder in a previous study. The deficits of social skills usually result in the lack of motivation to build up relationships, decreased interest in social activity, emotional responses, and feeling of enjoyment (anhedonia). The fear of being socially rejected which may impair social affiliation and attachment frequently manifests as increased sensitivity to rejection and leads to social withdrawal.[7] A previous study demonstrated that almost 50.0% of the patients with major depressive disorder (MDD) and bipolar disorders experienced increased rejection sensitivity.[8] Accepting unjust practices from others, this is a form of prosocial behavior and is related to strengthening social bonds and attachment. Negatively recognizing and interpreting facial expressions, gestures, and emotions of others, lacking awareness and understanding of other people's emotions and lack of social support, were also the characteristics of social skill deficits in patients with depressive disorder.[7]

However, studies concerning social skills deficits in Thai depressed patients were still limited. Therefore, the purpose of this study was to determine the prevalence and associated factors of social skills deficits of Thai patients with depressive disorders. The associated factors in this study included severity of depression, satisfaction with family function, self-esteem, and personality characteristics. This will help develop the social skills enhancing program for depressed patients in Thailand in the future.

## Materials and methods

### *Participants*

One hundred and fifty outpatients aged 18 years or more (mean age 32.1 ± 13.0 years), diagnosed with major depressive disorder (MDD) or persistent depressive disorder (PDD) or dysthymia based on the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) were recruited into the study if they had no evidence of schizoaffective disorder, schizophrenia and other psychotic disorders, bipolar disorder, major neurocognitive disorders, organic psychosis or substance use disorders. The study was conducted at the Psychiatric Outpatient Department, King Chulalongkorn Memorial Hospital, Thailand from August 2019 to December 2019. All subjects gave their written, informed consents and completed five questionnaires: 1) Beck Depression Inventory-II (BDI-II) - Thai version; 2) Social Skill Inventory (SSI) - Thai version; 3) Family Adaptation, Partnership, Growth, Affection, Resolve (APGAR) Questionnaire; 4) Revised Version of Thai Rosenberg Self-Esteem Scale (Revised Thai RSES); and, 5) Maudsley Personal Inventory (MPI). And the medical data record form was completed by the researcher. The study has been approved by the Ethics Committee (full board), the Institutional Review Board of Faculty of Medicine, Chulalongkorn University from 20 June 2019 (IRB no. 291/62).

### *Measurements*

Demographic questionnaire included items assessing age, gender, marital status, education, occupation, incomes, financial adequacy, physical illnesses, other psychiatric illnesses, and substance use.

The assessment of depression severity in depressed patients using Beck Depression Inventory-II (BDI-II) which was developed by Beck AT, *et al.* [9] and was translated to The (BDI-II) - Thai version by Thavichachart N, *et al*.[10] The BDI-II consists of 21 items and scores range from 0 to 63 and cut off into 4 levels (0 -13 = mild depression, 14 - 19 = minimal depression, and 20 - 28 = moderate depression, 29 - 63 = severe depression). The BDI-II has high internal consistency ($\alpha$ = 0.91) and positively correlated with the Hamilton Depression Rating Scale (HDRS) with a Pearson's of 0.71, showing good agreement.[11] In this study, the test also has high internal consistency ($\alpha$ = 0.94).

Social skills were assessed by Social Skills Inventory (SSI) - Thai version that was developed by Klomkliang D.[12] from the original version of Riggio RE.[13] It was the comprehensive, self-report measure of six social/communication skills: 1) Emotional Expressivity (EE), skill in sending/encoding nonverbal and emotional messages and the nonverbal expression of attitudes, dominance, and interpersonal orientation; 2) Emotional Sensitivity (ES), skill in receiving and interpreting the nonverbal messages as well as attentiveness to nonverbal cues; 3) Emotional Control (EC), the ability to regulate emotional and nonverbal displays of behavior; 4) Social Expressivity (SE), skill in verbal expression and the ability to engage others in social interaction; 5) Social Sensitivity (SS) is the ability to accurately decode/interpret others' verbal communications, as well as knowledge of and sensitivity to norms governing appropriate social behavior; and, 6) Social Control (SC), skill in social role-playing and social self-presentation), reflecting both nonverbal and verbal sending ability, receiving or decoding ability, and control or regulation of communication. SSI-Thai version consisted of 66 questions and scores range from 0 to 132 with cut off into 5 levels (0 - 58 = very low social skills, 59 - 71 = low social skills, and 72 - 86 = moderate social skills, 87 - 100 = high social skills, 101 - 132 = very high social skills). Considering the deficits of social skills, the scores of 0 - 71 mean social skills deficits while 72 - 132 mean no social skills deficits. The whole test has good internal consistency ($\alpha$ = 0.88) and good internal consistency of six social/communication skills ($\alpha$ = 0.71 - 0.82). In this study, the test also has high internal consistency ($\alpha$ = 0.94).

The family function was screened by The Family Adaptation, Partnership, Growth, Affection, Resolve (APGAR) Questionnaire which was developed by Smilkstein G, *et al.*[14] and translated into Thai and developed by Malathum P.[15] There were 5 items, scores range from 0 to 20 and cut off into 3 levels of satisfaction (0 - 6 = low satisfaction with family function, 7 - 13 = moderate satisfaction with family function and 14 - 20 = high satisfaction with family function). The questionnaire also has high internal consistency ($\alpha$ = 0.91).[16] In this study, the test also has high internal consistency ($\alpha$ = 0.92).

The person's self-esteem was measured by The Rosenberg Self-Esteem Scale (RSES). The scale was developed by Rosenberg M.[17], translated to Thai by Thangjitpukdeesakul T. and revised in 2011 by Wongpakaran T.[18] There were ten items with six positively and four negatively worded statements. The total scores range from 10 to 40, with the higher the score the higher the level of self-esteem. The scale also has high internal consistency ($\alpha$ = 0.86). In this study, the test also has good internal consistency ($\alpha$ = 0.78).

Personalities were extensively measured by Maudsley Personal Inventory (MPI) that was developed by Eysenck HJ, *et al.*[19], translated to Thai and adapted by Suwannalert S.[20] It is a 48-item instrument to measure two dimensions of personality tendencies, 24-item for E-Extraversion (extravert and introvert) and 24-item for N-Neuroticism (neurotic and stable). Six of the items have negatively worded statements and the rest have positively worded ones. The total scores range from 0 to 48, this was used to classify into 4 types of personality as extravert-neurotic (scale E $\geq$ 24 and scale N $\geq$ 24), extravert-stable (scale E $\geq$ 24 and scale N < 24), introvert-neurotic (scale E < 24 and scale N $\geq$ 24) and introvert-stable (scale E < 24 and scale N < 24). The scale also has high internal consistency (Scale E $\alpha$ = 0.91, Scale N $\alpha$ = 0.90). In this study, the test also has good internal consistency (Scale E $\alpha$ = 0.71, Scale N $\alpha$ = 0.90).

The medical data record form was completed by the researcher, included items assessing depression diagnosis, duration of illness with depression, the record of treatment for depression, including current medications, psychiatric admission and ECT.

***Statistical analysis***

The data were analyzed using the SPSS software for Windows 22.0. The prevalence of social skills deficits in depressed patients was presented in proportion and percentage. Data were expressed as mean ± standard deviation (SD). The associated factors of social skills deficits were analyzed by the chi-square test, Fisher's Exact test, and Pearson's correlation coefficient. Significant factors from theoretical review and univariate analysis were entered into the binary logistic regression model (Odds ratio: (OR) and 95% confidence interval (CI) to identify the potential predictors of social skills deficits in depressed patients. A $P$ - value < 0.05 was considered statistically significant.

## Results

### *Participant characteristics*

Socio-demographic data are presented in Table 1. The patients were diagnosed as MDD 89.3%, PDD 10.0%, and double depressive 0.7%, 87 patients (58.0%) had a duration of illness less than two years; 63 (42.0%), 2 years or more. Most of them (85.3%) never had psychiatric admission and 142 patients (94.7%) never had electroconvulsive therapy (ECT) treatment.

***Social skills*** The mean score (with SD) of social skills on SPSS was 78.1 ± 16.5. If divided into 5 levels, found that most depressed patients have a low level of social skills (36.0 %), followed by high level (22.0%), moderate level (18.0 %), very high level (13.3 %), and very low level (10.7 %), respectively. When dividing social skills into 2 areas which are emotional and social, most depressed patients have impairments in emotional control (EC), next is an emotional expression (EE) and emotional sensitivity (ES) respectively in emotional. Social control (SC) followed by a social expression (SE) and social sensitivity (SS) respectively in social. Using the cut-off point of 71, the prevalence of social skills deficits in depressed patients was 46.7% (Table 2).

**Table 1.** Participants' demographic characteristics.

| Demographic characteristics | n | % | Demographic characteristics | n | % |
|---|---|---|---|---|---|
| **Age (years)** | | | Financial adequacy | | |
| 18 - 40 | 118 | 78.7 | Having savings | 59 | 39.3 |
| 41 - 60 | 26 | 17.3 | Affordable | 56 | 37.3 |
| 61 and above | 6 | 4.0 | Not affordable | 16 | 10.7 |
| (Mean ± SD = 32.08±13.01, Min = 18, Max = 70) | | | Not enough - have debt | 19 | 12.7 |
| **Gender** | | | **Physical illness** | | |
| Male | 30 | 20.0 | Absence | 75 | 50.0 |
| Female | 120 | 80.0 | Presence | 75 | 50.0 |
| **Marital status** | | | Mostly in 1. Allergy | 31 | 20.7 |
| Single | 100 | 66.7 | 2. Rheumatism | 14 | 9.3 |
| Couples | 38 | 25.3 | **Other psychiatric illness** | | |
| Separated | 7 | 4.7 | Absence | 134 | 89.3 |
| Divorced | 4 | 2.7 | Presence | 16 | 10.7 |
| Widowed | 1 | 0.7 | Mostly in 1. Anxiety disorder | 4 | 2.7 |
| **Education** | | | 2. Bipolar disorder | 3 | 2.0 |
| None | 0 | 0.0 | **Substance use** | | |
| Lower than bachelor | 45 | 30.0 | No | 87 | 58.0 |
| Bachelor | 89 | 59.3 | Yes | 63 | 42.0 |
| Postgraduate | 16 | 10.7 | **Cigarettes** | | |
| **Occupation** | | | Not smoke | 121 | 80.7 |
| Unemployed | 56 | 37.3 | Sometimes smoke | 18 | 12.0 |
| Government officer / State enterpriser | 11 | 7.3 | Often smoke 11 | 7.3 | |
| Business owner / Employer | 24 | 16.0 | **Alcohols** | | |
| Employee / Staff / Labor | 48 | 32.0 | Not drink | 92 | 61.3 |
| Other | 11 | 7.3 | Sometimes drink | 55 | 36.7 |
| **Incomes (Baht/month)** | | | Often drink | 3 | 2.0 |
| No income | 56 | 37.3 | **Other substances** | | |
| Have income | 94 | 62.7 | Not use | 142 | 94.7 |
| ≤ 10,000 | 16 | 10.7 | Sometimes use | 6 | 4.0 |
| 10,001 - 20,000 | 31 | 20.7 | Often use | 2 | 1.3 |
| 20,001 - 30,000 | 25 | 16.7 | | | |
| 30,001 - 40,000 | 7 | 4.7 | | | |
| > 40,000 | 15 | 10.0 | | | |
| (Mean ± SD = 15,580.1 ± 17,491.3, Min = 0 | | | | | |

**Table 2.** Mean, standard deviation, minimum and maximum of social skills and frequency of social skill levels of patients with depressive disorders (n = 150).

| Social skills | Mean ± SD | Min-Max |
|---|---|---|
| **Total** | 78.1 ± 16.5 | 41 - 114 |
| **Domains** | | |
| Emotional Expressivity (EE) | 9.8 ± 3.5 | 0 - 17 |
| Emotional Sensitivity (ES) | 12.6 ± 3.1 | 5 - 18 |
| Emotional Control (EC) | 12.5 ± 4.7 | 1 - 24 |
| Social Expressivity (SE) | 13.6 ± 5.4 | 2 - 24 |
| Social Sensitivity (SS) | 16.9 ± 3.5 | 7 - 24 |
| Social Control (SC) | 12.7 ± 5.4 | 2 - 24 |
| **Social skills deficiency** | **N** | **(%)** |
| Social skill deficits | 70 | 46.7 |
| Social skill, not deficits | 80 | 53.3 |

***Severity of depression*** The mean score (with SD) of social skills on BDI-II was 26.6 ± 14.4. If divided into 4 levels, found that most depressed patients had severe depression as 38.7%, followed by moderate (24.7%), minimal (20.0%), and mind (16.7%), respectively.

***Satisfaction of family support*** The mean score (with SD) of satisfaction on the Family APGAR was 12.7 ± 5.3. If divided into 3 levels, most depressed patients have satisfaction as high as 48.0%, followed by moderate (39.3%), and low (12.7%) respectively.

**Table 3.** Association between variable factors of depressed patients and social skill deficits.

| Variable factors | Social skill deficits | | | |
|---|---|---|---|---|
| | Deficits (70) n (%) | Not deficits (80) n (%) | Total (150) n (%) | *P* - value |
| **Age** | | | | |
| ≤ 40 years | 61 (51.7) | 57 (48.3) | 118 (100.0) | 0.018* |
| > 40 years | 9 (28.1) | 23 (71.9) | 32 (100.0) | |
| Mean ± SD | 30.0 ± 11.7 | 33.9 ± 13.9 | 32.1 ± 13.0 | |
| Min, Max | 18, 61 | 19, 70 | 18,70 | |
| **Gender** | | | | |
| Male | 8 (26.7) | 22 (73.3) | 30 (100.0) | 0.014* |
| Female | 62 (51.7) | 58 (48.3) | 120 (100.0) | |
| **Severity of depression** | | | | |
| Minimal to mild | 14 (25.5) | 41 (74.5) | 55 (100.0) | < 0.001** |
| Moderate to severe | 56 (58.9) | 39 (41.1) | 95 (100.0) | |
| **Satisfaction of family supports** | | | | |
| Low to Moderate | 46 (59.0) | 32 (41.0) | 78 (100.0) | 0.002** |
| High | 24 (33.3) | 48 (66.7) | 72 (100.0) | |
| **Self-esteem** | | | | |
| Low | 61 (67.8) | 29 (32.2) | 90 (100.0) | < 0.001** |
| High | 9 (15.0) | 51 (85.0) | 60 (40.0) | |
| **Personality (Scale E)** | | | | |
| Extravert | 14 (25.0) | 42 (75.0) | 56 (100.0) | < 0.001** |
| Introvert | 56 (59.6) | 38 (40.4) | 94 (62.7) | |
| **Personality (Scale N)** | | | | |
| Neurotic | 67 (54.0) | 57 (46.0) | 124 (100.0) | < 0.001** |
| Stable | 3 (11.5) | 23 (88.5) | 26 (100.0) | |

*$P < 0.05$, **$P < 0.01$

***Self-esteem*** The mean score (with SD) of satisfaction on Revised Thai RSES was 24.0 ± 6.1. The prevalence of low self-esteem in depressed patients was 60.0%.

***Personalities*** If divided into two dimensions of personality tendencies, E-Extraversion (n = 150) (extravert - 37.3% and introvert - 62.7%) and N-Neuroticism (n = 150) (neurotic - 82.7% and stable - 17.3%) classify into 4 types of personality as extravert- stable (scale E ≥ 24 and scale N < 24, 9.3%), extravert- neurotic (scale E ≥ 24 and scale N ≥ 24, 27.3%), introvert- stable (scale E < 24 and scale N < 24, 8.7%) and introvert- neurotic (scale E < 24 and scale N ≥ 24, 54.7%).

By using chi-square test, factors associated with social skills deficits were being female, age under 40 years ($P < 0.05$), moderate-to-severe level of depression, low-to-moderate level of family support, low level of self-esteem, introvert personality, and neurotic personality ($P < 0.01$) (Table 3).

By Pearson's correlation, the incomes, family APGAR, Thai RSES, and Scale E of MPI were positively correlated with SSI scores ($r = 0.162, 0.333, 0.554$ and $0.535$, respectively), while the BDI-II scores and Scale N of MPI were negatively correlated with SSI scores ($r = -0.346$ and $-0.492$, respectively) (Table 4). By logistic regression analysis, the significant predictors of social skills deficits were the moderate-to-severe level of depression ($P < 0.05$) and introvert personality ($P < 0.01$) (Table 5).

**Table 4.** Pearson's correlation between the scores on SSI – Thai version and those on other factors.

| Variables | Scores on social skills (SSI) | |
|---|---|---|
| | Pearson's correlation coefficient | *P*-value |
| Age | 0.141 | 0.085 |
| Incomes | 0.162 | 0.048* |
| BDI-II | -0.346 | < 0.001** |
| Family APGAR | 0.333 | < 0.001** |
| Thai RSES | 0.554 | < 0.001** |
| MPI (Scale E) | 0.535 | < 0.001** |
| MPI (Scale N) | -0.492 | < 0.001** |

*$P < 0.05$, **$P < 0.01$

**Table 5.** Predictors of social skills deficits in depressed patients by binary logistic regression using the forward LR method.

| Predictors of social skills deficits | $\beta$ | Adjusted Odds Ratio (OR) | 95% CI Of adjusted OR | | *P*-value |
|---|---|---|---|---|---|
| | | | Lower | Upper | |
| Moderate to severe of depression | 1.02 | 2.76 | 1.18 | 6.47 | 0.020* |
| Introvert personality | 1.28 | 3.61 | 1.66 | 7.85 | 0.001** |
| Neurotic personality | 1.43 | 4.17 | 0.662 | 16.60 | 0.043* |

*$P < 0.05$, **$P < 0.01$

## Discussion

In this study, 46.7% of depressed patients had social skills deficits. The prevalence of social skills deficits in this study was similar to the study from the US National Comorbidity Survey Replication (NCS-R) that found the social role impairment associated with depression as 43.3%. Compared to the previous study of Raksriaksorn P.[21] who studied social skills of youth aged 18 - 24 years who played online games at Internet cafés in Bangkok metropolis, it was found only 19.6%. This was because of depressed patients had low self-esteem and the fear of rejection and criticism [22] which leads to their inabilities to communicate their needs to others, and build up the good and rewarding relationships. This results in the lack of social supports, leading them to be more introvert and avoid opportunities to socialize, which impairs their social skills, and makes socialization unattractive.[23]

Considering social skills in each area, both emotionally and socially, patients with depressive disorders had lower social skills in every aspect than normal people except emotional sensitivity and social sensitivity (SS), that were higher than those in normal people. This was similar to the previous study of Perez JE, *et al.*[24] that found the patients with mood disorders and schizophrenia had lower social skills than in the normal people in all aspects except for emotional sensitivity and social sensitivity. These happened because depressed patients who had highly emotional sensitivity tend to pick up the emotions of others and it dramatically impacts their moods (i.e. if someone raised their voice they would run off or cry; sad or violent movies make them cry or feel deeply upset; things like music, arts, and nature deeply touch on them more than others). They might avoid people or situations that upset them and suffering their moods.[25] From previous studies, high emotional sensitivity was commonly found in patients with major depressive disorders, social anxiety and borderline personality disorders.[26] Regarding social sensitivity, high social sensitivity in depressed patients might be the effects of fearing of disappointment, abandonment, rejection, scornfulness [27, 28], and especially social rejection.[29] Thus, made them think or care only the needs of others and ignore the needs of themselves. Most of them accept unfair offers and feel victimized or forced because of not daring to comment or express their needs.

From this study, factors related to social skills deficiency of depressive disorder patients were age less than 40 years, female gender, the severity of depression (moderate-to-severe level), low-to-moderate levels of satisfaction with family support, low self-esteem, introvert personality, and neurotic personality. Among sociodemographic factors, aged less than 40 years old was associated with impaired social skills of depressed patients. This was consistent with Duangden D.[30] and Luong G, *et al.*[31], that people with increased age, especially those in the middle adulthood, had high maturity which leads to having better coping or problem-solving patterns, and better social skills.

Regarding gender issues, this study found being female was associated with the deficiency of social skills of depressed patients. This may be because the female tends to be more sensitive, express more emotions, anxiety or worries than male, while the male tends to better control effectively and manage their emotions adaptively. From the study of Margalit M, *et al.*[32], the female demonstrated high emotionality but had good social skills in the aspect of interpersonal relations.

Regarding the severity of depression, the moderate-to-severe level of depression was associated with the deficiency of social skills in depressed patients. This was consistent with study of Tse WS, *et al.*[33] that depression had a negative and strong impact on social skills, especially in the expression of social behavior. The problematic social behaviors appear to be markers of state function expressed during depressive episodes.[34] These happen because most of the depressed patients have low self-esteem, introvert personality, and social isolation. They could not maintain a rewarding and supportive relationship, and lack of good social support.[4]

Concerning psychosocial factors, low-to-moderate satisfaction with family support was associated with the deficiency of social skills in depressed patients. This was consistent with Lueboonthavatchai O.[4] and Gavidia-Payne S, *et al.* 's studies[35] that good family support, especially emotional support, helps the patients to buffer the effects of stresses when they experience a serious stressful life event by giving them more confidence and be able to reach their full potential, increased levels of coping and social skills to deal with problems effectively better, and also subsequently more socially participate.

Regarding self-esteem, low self-esteem was associated with social skills deficiencies. This was similar to the study of Riggio RE, *et al*.[36] that found the scores of self-esteem were positively correlated with almost all social skills except social sensitivity that was a negative correlation with self-esteem scores. Self-esteem is another factor that relates to social skills because it contributes to the confidence in a social expression such as expressing opinions and showing requirements. This results in achieving their needs and goals, reduce social isolation, and better social skills and functioning.

Concerning personalities, the introvert personality was associated with social skills deficits. This is characterized by the internally oriented ones who enjoy limited relationships, and do not seek out social engagements.[37] Neurotic personality was also associated with social skills deficits. Neurotic people are more likely to experience feelings of anxiety, loneliness, depressed mood, fear, frustration, anger, jealousy and guilt.[38] They respond worse to stressors and interpret ordinary situations as threatening and hopelessly difficult. They are at the risk of mood disorders, anxiety disorders, and substance use disorder.[39] These made both of introvert and neurotic unable to develop or lack of various skills, especially social skills.[40]

Virtually, all the analyzed found the most highly important factors that negatively affect social skills are the depression severity and introvert personality. Social skills deficits and introvert can be both as a cause of depression, as one of the symptoms of depression, and as a consequence of depression. Many symptoms of depression have immediate effects on the impaired skilled social behavior and personalities such as psychomotor symptoms that entail slowed and delayed motor behaviors, included slowed speech, long response latencies, diminished eye contact, and increased nervous gesturing.[41, 42] These are the same behaviors that are considered indicative of poor social skills. And also the feelings of worthlessness, avoiding social engagements, and social withdrawal disrupt social behavior and the desire to interact with other people.[43] These are considered indicative of introvert personality.

In summary, recovery from depression requires an improvement in all domains of social skills such as communicating and asserting their needs, build up rewarding relationships, and gaining social supports apart from giving medications and psychotherapies to decrease depressive symptoms as normal practices. Therefore, the social skills enhancing program may help depressed patients to reduce their symptoms, and to better adjust their lives.

Nevertheless, some limitations need to be considered in this study. First, the study was conducted on a sample group of depressed patients at the Outpatient Psychiatric Department, King Chulalongkorn Memorial Hospital. It may limit the extent to which these findings could be generalized to other groups with different settings. Second, the patients' comorbid personalities were not evaluated in this study. Some personalities may affect the patients' social skills, such as cluster B or borderline personality disorder. Third, since this study was a cross-sectional descriptive design, which could not identify the causal relationship between these variables.

## Conclusion

Social skills deficits were highly found about 46.7% in depressed patients and the associated factors were age less than 40 years, female gender, moderate-to-severe level of depression severity, low-to-moderate levels of satisfaction with family function, low self-esteem, introvert personality; and, neurotic personality were found related to social skills deficiency of depressed patients. The significant predictors of social skills deficits were introvert personality and the moderate-to-severe level of depression and neurotic personality.

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## Conflict of interest

The authors, hereby, declare no conflict of interest.

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