Utilization of traditional and complementary medicine in Indonesia: Results of a national survey in 2014–15

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ABSTRACT

Background and purpose: Scant information exists about traditional, complementary and alternative medicine (TCAM) use in Indonesia, which prompted investigating its prevalence and correlates in Indonesia.
Materials and methods: Participants were 31,415 individuals 15 years and older that participated in the cross-sectional Indonesia Family Life Survey in 2014–15.
Results: In all, 24.4% had used a traditional practitioner and/or traditional medicine in the past four weeks, and 32.9% had used complementary medicine in the past four weeks. In adjusted logistic regression analysis, being of older age, being a Muslim, residing in an urban area or on Java, being unhealthy, having a chronic condition, having depression symptoms, experiencing sleep disturbance, and having high social support were associated with both current traditional practitioner and/or medicine use and complementary medicine use.
Conclusion: The study shows a high prevalence of TCAM use in Indonesia and several sociodemographic and health related factors of its use were identified.

1. Introduction

The use of traditional and complementary health care has increased in recent years in Association of Southeast Asian (ASEAN) member states, including Indonesia [1–3]. It is estimated that a large proportion of the population in ASEAN utilizes traditional health care [4]. A large national household survey in 2013 in Indonesia found that 30.4% of households utilized traditional health care [5]. In previous surveys in Indonesia, among respondents who had consulted a health facility in the past four weeks, 38.3% in 2007 and 15.2% in 2000 had used traditional medicine for self-medication [6]. However, these reports did not assess the use of traditional and complementary medicine in general or for specific illness conditions for a recent reference period, such as currently (in the past 4 weeks), and the reports failed to include a comprehensive analysis of correlates of traditional and complementary medicine use in Indonesia. This resulted in the need to conduct an analysis of more recent national data on Indonesia to address the shortcomings of the previous research. *Traditional medicine* includes "diverse health practices, approaches, knowledge and beliefs incorporating plant, animal, and/or mineral based medicines, spiritual therapies, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness" (p.1) [7]. *Complementary and Alternative Medicine* refers to "a broad set of health-care practices that are not part of a country's own tradition and are not integrated into the dominant health-care system (p.1)." [7].

In 2012, more than 280,000 traditional and alternative medicine practitioners were registered with the Ministry of Health of Indonesia [8]. Most of these practitioners (96.2%) were using traditional treatment methods, and 3.8% were using complementary health care techniques such as acupuncture treatment methods [9]. In a review of studies in nine high-income countries, the prevalence of 12-month traditional, complementary and alternative medicine (TCAM) provider use averaged 21.1% [10], and a study on 32 mainly high-income countries found that the past 12-month prevalence averaged 26.4%, with a range of under 10% in some Eastern European countries to over 50% in mainland China, Korea and the Philippines [11].

As reviewed in Peltzer and Pengpid [11], determinants of TCAM or TCAM provider use may include sociodemographic factors (female gender, middle age, higher or lower education, low religious involvement, higher income, urban or rural residence) and health-related factors (chronic disease, poor physical and mental health, inadequate

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health care access, and satisfaction with TCAM services).

The aim of this study was to estimate the prevalence of traditional and complementary medicine use and its sociodemographic and health-related factors in a national population survey in Indonesia.

2. Materials and methods

2.1. Sample and procedure

Cross-sectional data were analysed from the "Indonesia Family Life Survey (IFLS-5)", a demographic and health survey, the fifth wave (IFLS-5) of which was completed in 2015 [12]. For the baseline survey, this national community survey collected data at the household and individual level using multistage stratified sampling from 321 enumeration areas (EAs) in 13 of 27 Indonesian provinces, which were selected because they represent 83% of the Indonesian population [12]. At the household level, several randomly selected members of the household were asked for detailed individual information. The sampling frame of the baseline survey was based on households from 321 enumeration areas (EAs) (20 households were randomly selected from each urban EA, and 30 households were selected from each rural EA) in 13 of 27 Indonesian provinces that were selected as representative of 83% of the Indonesian population in 1993; more details in Strauss et al. [12] In the IFLS-5, 31,415 individuals 15 years and older were interviewed with complete traditional and complementary medicine use measurements. A computer-assisted personal interview system (CAPI) was used for the interviews, and the data were entered using CSPro [12]. In the IFLS-5, "the dynasty or household recontact rate was 92% and for the individual target households (including split off households as separate) the recontact rate was 90.5%." [12] The questionnaire was developed in English and initially translated into Bahasa Indonesia by survey staff and then retranslated into English by two independent, outside translators [12]. Most of the interviews were conducted in Bahasa Indonesia (national language), and when needed, local interviewers used additional local languages [12]. The entire questionnaire was tested during a full-scale pretest on 393 household members (stratified by age, sex, education and rural and urban residence) [12]. The IFLS has been approved by the ethics review boards of RAND and the University of Gadjah Mada in Indonesia [12]. Written informed consent was obtained from all the respondents prior to the assessments [12].

In previous studies [8,9] in 40 mainly high-income countries, the prevalence of 12-month TCAM provider use averaged 23.7%. The sample size was calculated based on Epidemiological Information (Epi-Info) (Centers for Disease Control and Prevention, Atlanta, GA; USA) using an acceptable margin error of 1%, design effect 1, at confidence level 99%. The minimum sample size was 11,855. In the IFLS-5, the sample size was 31,415.

3. Measures

3.1. Outcome variable

Treatment type for chronic medical conditions was assessed with the question, "Has a doctor/paramedic/nurse/midwife ever told you that you had … ?" ("hypertension, diabetes or high blood sugar, heart attack, coronary heart disease, angina or other heart problems, stroke, asthma, other lung conditions, liver, cancer or malignant tumor, arthritis/rheumatism, high cholesterol (total or LDL), prostate illness, kidney disease, stomach or other digestive diseases, emotional, nervous, or psychiatric problems, and memory-related disease") (yes, no) (p. BOOK IIIB – 8f.) [12]. For each chronic condition, the respondents were asked, "Are you taking the following treatments to treat X condition and its complications?" The responses were coded into a) traditional medicine, b) modern medicine, including insulin injection, chemotherapy, surgery, radiation therapy, physical/occupational therapy,

psychiatric/psychological treatment, use of antidepressant, tranquilizing or sleeping pills, c) other treatment and d) no treatment (p. BOOK IIIB – 9) [12].

Health care utilization in the past four weeks was assessed with the questions, "Within the last 4 weeks have you been to or been visited by a … a) public hospital, b) public health center, c) private hospital, d) polyclinic, private clinic, medical center, e) private physician, f) nurse, paramedic, midwife practitioner and h) traditional practitioner." Those who responded "Yes" to any of the health care visit types were asked, "How much did you pay out of pocket for out-patient care during the last 4 weeks?" (p. BOOK IIIB – 39)[12]

Self-treatment in the past four weeks was measured with the question, "During the past 4 weeks, have you ever a) consumed over-the-counter modern medicines, b) traditional herbs or traditional medicine for treatment, c) topical medicines (such as eye drops, cream, medical plaster, ointment and the like), e) vitamins or supplements, and f) massage, coining?" Those who responded with "Yes" to any type of self-treatment were asked, "What was the approximate total cost to purchase or make that medicine during the last 4 weeks?" (p. BOOK IIIB – 37) [12].

Current (past 4 weeks) use of traditional practitioners and/or medicine was defined as 1) any current use of traditional treatment for any chronic condition, 2) a traditional practitioner visit in the past month, and 3) self-treatment with traditional medicine in the past month, and the current use of complementary medicine included self-treatment with vitamins or supplements and massage or coining in the past four weeks.

3.2. Exposure variables

The *socio-demographic factor* questions included age, sex, education, religion, residential status and province. Subjective economic status was assessed with the question "Please imagine a six-step ladder where on the bottom (the first step) stand the poorest people and on the highest step (the sixth step) stand the richest people. On which [economic] step are you today?" The response options ranged from (1) poorest to (6) richest (p. BOOK IIIA – 13) [12]. The responses were coded as poor economic status (economic steps 1 and 2), medium economic status (step 3) and rich economic status (steps 4 to 6).

Religiosity was assessed with the question, "How religious are you?" (responses: "very religious, religious, somewhat religious and not religious") (p. BUKU IIIA – 56) [12]. The responses were grouped into 1 = not religious or somewhat religious, 2 = religious and 3 = very religious.

Self-rated health status was assessed with one item: "In general, how is your health?" (response options ranged from 1 = very healthy to 4 = unhealthy) (p. BOOK IIIB – 4) [12]. The responses were grouped into 1 = somewhat unhealthy or unhealthy, 2 = somewhat healthy, and 3 = very healthy.

Tobacco use was measured with two questions: 1) "Have you ever chewed tobacco, smoked a pipe, smoked self-rolled cigarettes, or smoked cigarettes/cigars?" (yes, no) and 2) "Do you still have the habit, or have you totally quit?" (still have, quit) (p. BOOK IIIB – 2) [12].

Depression symptoms were measured with the *Centers for Epidemiologic Studies Depression Scale (CES-D:* 10 items), and scores of 15 or more were indicative of having (severe) depression symptoms [13] (Cronbach's alpha 0.69).

Sleep disturbance was measured with five questions from the Patient-Reported Outcomes Measurement Information System (PROMIS) sleep disturbance measure [14]. A sample item was, "I had difficulty falling asleep." Responses ranged from 1 = not at all to 5 = very much (Cronbach's alpha = 0.69). Sleep disturbance was defined as scores from 3 to 5 on the averaged mean items.

Life satisfaction was measured with one item, "Please think about your life as a whole. How satisfied are you with it?" (response options ranged from 1 = completely satisfied to 5 = not at all satisfied) (p.