Conformity of Patient-Received Medicine Information towards Understanding in Surabaya-Indonesia Primary Health Centres

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Abstract

Institute of Medicine presented the data on how almost half of Americans had low health literacy in which they hardly understood medicine instructions, possibly leading to therapy failure or unreachable medication safety. Few researches have been done on the patient understanding regarding the received medicine information. Considering that patient understanding has barely left the common ground, the study aspires to evaluate the influence of medicine information both orally and written for enhancing medication safety. It concerns over 200 respondents of 120 toddler's caregivers and 80 elder patients randomly taken from 40 primary health centres out of 62 located in Surabaya. From each, the respondents consist of three toddler's caregivers and two elderlies. The data of written medicine information was obtained from observing medicine labels embedded on the patients' medicines. Simultaneously, the data of oral medicine information was gained while the respondents were receiving medicine from pharmacy staff. The data of patient understanding was derived from the structured interview result after patients obtained medicines. The collected data was analysed descriptively through Pareto principles and PLS SEM v 3.0. Thus, patient understanding at Surabaya's primary health centres belongs to the quite strong category with its source from the average level of its written and strong level of oral information. Indeed, with the majority of Surabaya's primary health centres' patients still adhering to oral/traditional culture, they require oral explanation in terms of absorbing written medicine information.

Keyword: patient understanding, written medicine information, oral medicine information

1. INTRODUCTION

Knowledge about prescribed medications is one important area of study in the field of health literacy.[1] Institute of Medicine issued the data on almost half American grown-ups having low health literacy rate in the sense that they have difficulties in understanding medicine instruction which can affect compliance, leading to failure in therapy and medication safety.[2, 3] From the condition above, it can be implied that Clear communication is critical to successful health care.[2]

In younger populations, an evaluation of parents' ability to comprehend medicine labels for their children and calculate appropriate doses found that 77 percent of the adults studied were unable to correctly administer oral rehydration therapy, 56 percent were unable to calculate appropriate doses of cough syrup, and 68 percent planned therapy schedules led to incorrect dosing.[4] Another study in a survey of older hospitalized patients prior to discharge, only 40 percent reported having no problems in reading their medicine labels, and even fewer

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reported that they had a clear understanding of the instructions and also geriatric patients found that they frequently did not understand how to time their dosing in relation to meals.[5, 6] In a multisite study of primary care patients, nearly half were unable to understand one or more of the label instructions on five common prescription medicines.[7] However, most studies on patient's understanding about prescribed medications are taken from Western developed countries, while there is a relative lack of research from developing Asian countries especially in Indonesia.

Clear communication performed while giving the medicine to the patients consists of giving written and oral information,[8-10] which if seen from the patients' perspectives are the tools to help their understanding. However, how important the role of each of the information toward patient understanding is still unknown. This research aims to evaluate the impact of written and oral medicine information toward patient understanding regarding the received medicine information with the hope to increase adherence and medication safety.

2. RESEARCH FRAMEWORK AND HYPOTHESIS

H1: Written medicine information patient given has a positive effect on patient understanding.
H2: Written medicine information given has a positive effect on oral medicine Information given.
H3: Oral medicine information given has a positive effect on patient understanding.
H4: Oral medicine information given mediates a relationship between written medicine information given and patient understanding.

3. METHODS

3.1 Unit Analysis

The unit analysis is primary health centre.

3.2 Sample

The research caters for 200 respondents of 120 toddler's caregivers who their toddlers are receiving medicines prescriptions as well as 80 elderly patients who are also obtaining medicine prescriptions from doctors. Respondents came from 40 health centres of which had been selected randomly out of the total 62 in Surabaya. Respondents from every primary health centre were three toddler's caregivers and two elderly patients, which were randomly selected.

3.3 Data Collection

The written data information was taken from the observation toward the embedded medicine label accepted by respondents and matched with its label photos. Likewise, the oral data information was obtained while the patients were receiving medicines and its explanation from pharmacy staff. The respondent understanding data was taken from the structured interview result after the respondents had received their medicines. Data was collected from May to August 2014.

3.4 Data Analysis

The obtained data is analysed descriptively using Pareto principles, stating that:

> " around 80% of all positive results are produced by just 20% of efforts. Similarly, roughly 80% of all problems can be traced to approximately 20% all possible causes", cited from Sashkin,[11] Rinehart,[12] and Robson.[13]

Approximately, 80% performance is the result of 20% effort, hand in hand with around 80% problems can be traced through its 20% factors. Based on Pareto Principles this means the research variable indicator of good quality gains the score 4 and 5, higher than 80%, while the less qualified indicator (gaining score percentage of 4 and 5, lower than 80%) requires serious attention in particular if the percentage score 4 and 5 is smaller than 20%. This means there is a 80% performance problems or more and we need to learn its cause by checking the percentage which possesses scores 1, and 2 as much as ≥20%. Correlating the condition, Sallis [14] states that:

"This suggest that 20% of the processes cause 80% of the problems".

with the test will be held on mediation effect of oral medicine information on giving written medicine information towards patient understanding with PLS SEM v 3.0.

4. RESULTS AND DISCUSSION

4.1 General Description of Health Centres in Surabaya

As a technical implementation unit of Surabaya City Health Department, Surabaya's Primary Health Centres in total are 62, spread around 31 districts in the city. These Surabaya health centres serve primary health of Surabaya citizens who domiciled in 160 villages (*desa/kelurahan*), with the number of 2,853,265 people so that every health centre is viewed to serve 46.020 people [15,16] on average number.

Being the capital of the province of East Java, Surabaya's area extends on 326 km², with Madura Strait to the North and the East, the Sidoarjo Regency to the South, and Gresik Regency to the West. [15]

This research includes respondents who are toddler's caregivers and elderlies who underwent their treatment in 40 selected health centres.

4.2 The Data of Demographic Respondents

The distribution data of the respondents' gender based on their roles can be seen on Table 1:

The proportion of female respondents compared to the male in total is 5:1. The female respondents dominated both toddler's caregivers and elderlies groups, with their number doubles over the male respondents in the latter group.

The distribution data on education and occupational level based on age group can be seen on Table 2:

The commonest age found among the respondents is between 20-40 years old from toddler's caregivers group and followed with those whose age more than 60. The most education level possessed by respondents are High School and lower, reaching up to 90% and the most occupation found among them is homemaker.

4.3 Description on Medicine Information Variable

The following is the frequency distribution of written information provision through given medicine label and oral medicine information during the medicine handover to patients based on the score of check up results of examination/observation on Table 3:

Table 1. The distribution on the gender of respondents based on their roles

	Respondent Group				Total (n)	Total (%)
	toddler's caregivers	%	elders	%		
Male	4	2.0	29	14.5	33	16.5
Female	116	58.0	51	25.5	167	83.5
Total (n)	120	60.0	80	40.0	200	100.0

n= the number of respondents

Table 2. Demography of the respondents' education and occupational levels based on age group

		Respondent Age Group (year)				Total (n)	Total (%)
		≤ 20	>20-40	>40-60	>60		
Respondent's Latest Education	Postgraduate	-	-	-	1	1	0.5
	Undergraduate	-	8	1	5	14	7.0
	Diploma	-	3	1	1	5	2.5
	Senior High	1	53	2	13	69	34.5
	Junior High	3	16	2	12	33	16.5
	Elementary	1	19	7	30	57	28.5
	Uneducated	-	1	1	19	21	10.5
Total (n)	5	100	14	81	200	100.0	
Respondent's Occupation	Pharmacy technician	-	1	-	-	1	0.5
	Civil Servants	-	2	-	-	2	1.0
	Enterpreneur	-	5	2	13	20	10.0
	Private employees	1	13	-	2	16	8.0
	Homemaker	3	78	9	26	116	58.0
	Retired	-	-	-	17	17	8.5
	Others/not working	1	1	3	23	28	14.0
Total (n)		5	100	14	81	200	
Total (%)		2.5	50.0	7.0	40.5		100.0

n= the number of respondents

Table 3. Frequency distribution of medicine information provision surabaya primary health centres 2014

Indicator	Examination/Observation Results										Mean
	1		2		3		4		5		
	n	%	n	%	n	%	n	%	n	%	
Written Medicine Information Provision (through Label)											
Prescription consecutive number (E2R)	35	87.5	1	2.5	1	2.5	1	2.5	2	5.0	1.35
Prescription service date (E3R)	26	65.0	5	12.5	1	2.5	2	5.0	6	15.0	1.93
Patient's name (E5R)	7	17.5	6	15.0	9	22.5	4	10.0	14	35.0	3.30
Medicine's name (E6R)	4	10.0	9	22.5	7	17.5	12	30.0	8	20.0	3.28
Strength (E7R)	5	12.5	7	17.5	8	20.0	12	30.0	8	20.0	3.28
Time/Frequency of administration (E9R)	1	2.5	1	2.5	1	2.5	10	25.0	27	67.5	4.53
Expiration Date (E10R)	3	7.5	11	27.5	17	42.5	5	12.5	4	10.0	2.90
Indication (E11R)	11	27.5	9	22.5	7	17.5	8	20.0	5	12.5	2.68
Duration (E12R)	23	57.5	10	25.0	2	5.0	4	10.0	1	2.5	1.75
Method of administration (E13R)	1	2.5	7	17.5	13	32.5	8	20.0	11	27.5	3.53
Adverse effect (E14R)	36	90.0	0	0.0	2	5.0	1	2.5	1	2.5	1.28
Cara Penyimpanan (E15R)	20	50.0	9	22.5	9	22.5	1	2.5	1	2.5	1.85
Mean Total											2.64
Oral Medicine Information Provision											
Indication (L2R)	1	2.5	0	0.0	5	12.5	12	30.0	22	55.0	4.35
Method of administration (L3R)	1	2.5	1	2.5	3	7.5	10	25.0	25	62.5	4.43
Time/Frequency of administration (L4R)	1	2.5	4	10.0	0	0.0	3	7.5	32	80.0	4.63
Mean Total											4.47

n = the number of primary health centre

Among the twelve Written Medicine Information Provision indicator variables as shown in Table 3. Based on the Pareto Principle, the E9R indicator about the time/frequency of medicine use is the most powerful indicator as to obtain the percentage of examination/ observations in the medicine label upper limit of the Pareto Principle, namely 80.0% gained 92.5% (67.5% 'all complete' and 25.0% 'many complete'). Among the twelve Written Medicine Information Provision indicator variables the E14R, E15R, E2R, E12R, and E3R indicators respectively have performance problems by 95.0%, 95.0%, 92.5%, 87.5%, 80.0% and equal to or higher than 80% of the problem based on the Pareto principle and on each of the indicators the percentage obtaining examination/ observations of category 1 (one) and 2 (two) above the limit of 20% Pareto Principle, namely sequentially 90.0%, 72.5%, 90.0%, 82.5% , and 77.5%. E14R indicator on adverse drug reactions obtain the results of the examina-tion/observation of category 1 (one) and 2 (two) by 90% (90.0% 'not given' and 0.0% 'a little full'), E2R indicator on the serial number of the prescription obtain examination/observations of category 1 (one) and 2 (two) amounted to 90.0% (87.5% 'not given' and 2.5% 'a little full'), E12R indicator on duration use of medicines obtain examination/observations of category 1 (one) and 2 (two) amounted to 87.5% (57.5% 'not given', and 25.0% 'a little full'), E3R indicator on the date of prescription service obtain examination/observations of category 1 (one) and 2 (two) amounted to 77.5% (65.0% 'not given', and 12.5% 'a little full'), and E15R indicator on how storage obtaining medicine obtain examination/observations of category 1 (one) and 2 (two) amounted to 72.5% (50.0% 'not given', and 22.5% 'a little full').

There is also the average value of the Written Medicine Information Provision indicator variable of primary health centres in Surabaya by 2.64 includes enough category (2.6 - 3.4).

Among the three indicators of Oral Medicine Information Provision variable as shown in Table 3 all the indicators are strong performance for obtaining the percentage of

observations of medicine information orally category four (4) and five (5) above the 80.0% limit of the Pareto Principle. L4R indicators on the time/frequency of medicine use obtained a value of 87.5% (80.0% 'all complete,' and 7.5% 'many full'), L3R indicator on method of medicine administration obtaining observations value of 87.5% (62.5% 'all complete,' and 35.0% 'many full'), and L2R indicator on indication obtaining observations grades of 85.0% (55.0% 'all complete 'and 30.0%' many full'). Among the three indicators of Oral Medicine Information Provision variable were not found problematic performance indicator because it is below 80% of the Pareto Principle and also not found indicators that derive value observed category 1 (one) and 2 (two) is equal to or greater than 20% of the Pareto Principle.

There is also the average value of the three indicator Giving Oral Medicine Information variable Primary Health Centre in Surabaya by 4.47 including strong category (4.2 - 5.0).

In between the two variables of Medicine Information Provision, the Written Medicine Information Provision variable is weaker when compared with the Oral Medicine Information Provision for the indicators to obtain a percentage of 48.96% compared to 6.67% based on the average results examination/ observation that gained value category 1 (one) and 2 (two) in each variables or with a statement to the contrary Oral Medicine Information variable is a variable that is stronger than Written Medicine Information Provision variable to obtain a percentage of 86.67% compared to 32.29% based on the average examination/ observations results of category 4 (four) and 5 (five).

4.4 Description Patient Understanding Variable

Here is presented a frequency distribu-tion of the Patient Understanding indicator variable (Table 4).

In between the two indicator Patient Understanding variables as shown in Table 4 was not encountered strong indicator that received a percentage of the value of understanding the

Table 4. Frequency distribution of the patient understanding surabaya primary health centres 2014

Indicator	Understanding Score										Mean
	1		2		3		4		5		
	n	%	n	%	n	%	n	%	n	%	
Indication (U2R)	2	5.0	4	10.0	17	42.5	9	22.5	8	20.0	3.43
Time/Frequency of administration (U4R)	2	5.0	4	10.0	15	37.50	11	27.5	8	20.0	3.48
Mean total											3.46

Explanation: n = the number of health centre

patient's assessment category 4 (four) and five (5) equal to or greater than the 80% limit of the Pareto Principle. Similarly, even though there are performance problem issues sequentially by 57.5% and 52.5% for U2R indicator on indication, or U4R indicators on time/frequency of medicine use obtain lower than 80% problem based on Pareto principle, also not found indicators that obtain category 1 (one) and 2 (two) above the 20% limit of the Pareto Principle for understanding the value of 'do not know', and 'little understood'.

There is also the average value of the Patient Understanding indicator variable primary health centres in Surabaya at 3.46 including the category is strong enough (3.4 - 4.2).

4.5 Reflective Measurements Model (Construct) Evaluation

Measurements Model (Construct) Evaluation is aimed to assess the quality of the construct that includes an evaluation of the reliability and validity.[17,18] Evaluation of construct reliability includes an indicator reliability and internal consistency reliability (composite reliability and Cronbach Alpha), while the evaluation of construct validity includes convergent validity (average variant extracted = AVE) and discriminant validity (Fornell Larcker Criterion and Cross Loading).[18]

Reflective construct evaluation results can be seen in Table 5 as follows:

Table 5. Validity and reliability outer model

Latent Variable	Indicator	Reliability			Findings	Validity			Findings
		Indicator Reliability (Outer Loading)^2	Internal Consistency Reliability			Convergent Validity	Discriminant Validity		
			Composite Reliability	Cronbach Alpha		AVE	Fornell Larcker Criterion	Cross Loading	
Written Medicine Information	Expiration date (E10R)	$(0.851)^2= 0,724$	0.854	0.775	Reliable	0.594	0.771	0.851	Valid
	Indication (E11R)	$(0.746)^2= 0,556$						0.746	
	Duration of medication (E12R)	$(0.739)^2= 0,546$						0.739	
	Method of administration (E13R)	$(0.740)^2= 0,548$						0.740	
Oral Medicine Information	Indication (L2R)	$(0.903)^2= 0,815$	0.923	0.878	Reliable	0.801	0.895	0.903	Valid
	Method of administration (L3R)	$(0.946)^2= 0,895$						0.946	
	Time/Frequency of administration (L4R)	$(0.833)^2= 0,694$						0.833	
Patient Understanding	Indication (U2R)	$(0.936)^2= 0,876$	0.910	0.805	Reliable	0.835	0.914	0.936	Valid
	Time/Frequency of administration (U4R)	$(0.891)^2= 0,794$						0.891	

4.5.1 Construct Reliability Indicators

Construct reliability indicators state that the indicator has many similarities/generality with the related constructs. Indicators of reliability of the construct are determined by the value of proper outer loadings which are greater than 0.708 with consideration that quadrated value outer loading of 0.708^2 is 0.50 or 50%, stating that the latent variables are substantially explained at least 50% of each variant constructs of constituent indicators. Indicators with outer loading between 0.40 - 0.70 are removed only if the removal of the composite indicators improve reliability and AVE above the specified threshold value, whereas the outer loading indicator <0.40 is deleted. There are also indicators that are removed, namely E2R, E3R, E5R, E6R, E7R, E9R, E14R, and E15R.

4.5.2 Internal Consistency Reliability Construct

Internal consistency reliability construct states that estimated reliability is based on the observed inter-correlations variable indicators. Internal consistency reliability construct is determined by the composite reliability value of the minimum limit of 0.708 (on research that is exploratory 0.60 - 0.70 is acceptable), while the value of Cronbach Alpha is a conservative measure of internal consistency reliability with a minimum limit of 0.70 righteously. On Table 6, it appears that the composite reliability value of all of the construct variables and Cronbach Alpha value are > 0.70.

4.5.3 Convergent Validity Construct

Convergent validity states that a measuring instrument (indicator) accurately reflects the intended construct. Convergent construct validity is determined by the value of Average Variance Extracted (AVE) that must be greater than 0.50, which means that 50% or more variants of indicators can be explained. On Table 6 it appears that the entire value of AVE is ≥ 0:50.

4.5.4 Discriminant Validity Construct

Discriminant validity is related to the principle that the distinct measure (manifest variables) constructs should not be highly correlated, or in other words that to precisely test a construct will only measure the construct that is deemed vital. Validity discriminant construct is determined by the Fornell Larcker Criterion and Cross Loading value. The Fornell Larcker Criterion test is done by comparing the square root of AVE within each variable on the diagonal Table 6 with the correlation between the constructs in the model. The shown good validity of the square roots AVE for each construct is greater than the correlation between the constructs in the model. On the Table 6 Fornell Larcker Criterion, it appears that the entire square root AVE in each construct is greater than the correlation between the constructs in the model. In the validity test done with Cross Loading which is declared valid by looking at the value of each indicator, outer loading constructs must be greater than the whole other cross loading indicator construct in the same column. In Table 7 the Cross Loading, it seems that the whole outer loading value of each indicator can constituent a bigger construct than the entire value of the entire other cross loading indicator constituent construct in the same column.

Table 6. Fornell-Larcker Criterion

Latent Variable	Patient Understanding	Oral Medicine Information Provision	Written Medicine Information Provision
Patient Understanding	0.914		
Oral Medicine Information	0.629	0.895	
Written Medicine Information	0.497	0.599	0.771

Table 7. Cross loading

Indicators	Patient Understanding	Oral Medicine Information Provision	Written Medicine Information Provision
Expiration date (E10R)	0.263	0.412	0.851
Indication (E11R)	0.420	0.425	0.746
Duration (E12R)	0.406	0.311	0.739
Method of administration (E13R)	0.408	0.616	0.740
Indication (L2R)	0.664	0.903	0.629
Method of administration (L3R)	0.561	0.946	0.538
Time/frequency (L4R)	0.419	0.833	0.398
Indication (U2R)	0.936	0.644	0.488
Time/frequency (U4R)	0.891	0.490	0.413

4.6 Measurement Model / Outer Model Results

Measurement models are an element that contains a model of the path indicators and its influence on related constructs. Measurement models are also referred to as outer models in PLS-SEM. Outer loading value declares the weight of each indicator as a measurement of each of the latent variables/constructs respectively. Indicator with the largest outer loading states that indicators as variable are measuring the strongest (dominant). Outer loading value expresses significant measurement/reflection on the related latent variables/constructs if the value of t-statistic is greater than 1.96 (for a significance level of 5%) or a p-value that is less than 0.05.

4.6.1 Outer Model on the Written Medicine Information Provision

Here are the presented results of the outer model Written Medicine Information Provision (Table 8):

Table 8. The results of the outer model written medicine information provision

Indicator	Outer Loading	Standard Error	t-statistic	p-value	Finding
Expiration date (E10R)	0.851	0.062	13.803	0.000	Significant
Indication (E11R)	0.746	0.075	10.013	0.000	Significant
Duration (E12R)	0.739	0.094	7.848	0.000	Significant
Method of administration (E13R)	0.740	0.088	8.428	0.000	Significant

From the outer model examination above it appears that all four indicators of written medicine information provision have strong values outer loading (> 0.708), and the T-statistic values and p-values are significant, indicating that the measurement of written medicine information provision is reflected by the four indicators.

4.6.2 Outer Model on Oral Medicine Information

Here are presented the results of the outer model of the oral medicine information (Table 9):

From the outer model examination above it is apparent that all three indicators of oral medicine information have strong outer loading values (more than 0.708), and the T-statistic

Conformity of Patient-Received Medicine Information towards Understanding in Surabaya-Indonesia Primary Health Centres

79

values and p-values are significant, perceiving the measurements oral medicine information that are reflected by the three indicators.

4.6.3 Outer Model on Patient Understanding of the Medicine Information be Accepted

Here are presented the results of the outer model of the patient understanding variables (Table 10):

From the outer model examination above it seems that all the two indicators have strong outer loading values (more than 0.708). This implies that the measurement of under-

standing Patient is reflected by the two indicators.

4.7 Evaluation of Structural Model

Evaluation of the structural model is intended to test the predictive capability of the model and its influence among constructs. Evaluation of structural models includes assessment of collinearity, the significance and relevance of the effect of the structural model. Relevance of the structural impact assessment is carried out by assessing the degree of R^2, the assessment of the f^2 size effect and predictive Q^2 relevance judgements.

Table 9. The results of the outer model of the oral medicine information

Indicator	Outer Loading	Standard Error	t-statistic	p-value	Finding
Indication (L2R)	0.903	0.039	22.879	0.000	Significant
Method of administration (L3R)	0.946	0.035	26.946	0.000	Significant
Time/frequency (L4R)	0.833	0.147	5.680	0.000	Significant

Table 10. The Results of the Outer Model of the Patient Understanding Variables

Indicator	Outer Loading	Standard Error	t-statistic	p-value	Finding
Indication (U2R)	0.936	0.024	39.432	0.000	Significant
Time/frequency (U4R)	0.891	0.056	15.919	0.000	Significant

4.7.1 Collinearity Assessment

Estimates path coefficients in the structural model are based on ordinary least square regression (OLS) on any endogenous latent variables in conjunction with related constructs. As in the general multiple regression, path coefficients may be biased if the estimate involves a significant degree of collinearity among related constructs. Collinearity indications tolerance limit is set by the value of <0.20 or variance inflation factor (VIF) > 5.0. If there is collinearity, it can be done with disposal construct or by combining predictors into a single construct. In this study there is no indicator/predictor that has collinearity.

4.7.2 Significance and Relevance of the Influence of Structural Model

After ensuring the validity and reliability of the construct, the next step is conducted to assess the effect on the structural model (path coefficients) which illustrates the hypothesized influence among constructs. Standardized path coefficient has values between -1 and +1, +1 approaching path coefficient estimates express strong positive influence (and vice versa for negative values) that are almost always statistically significant (i.e. different from 0 (zero) in the population). The closer it is to 0 (zero), the weaker its influence. Very small value close to 0 (zero) is usually not significant (i.e. not

significantly different from zero). Whether or not a coefficient expresses a significant value, it depends on its standard error.

The significance of the influence of structural model can be direct and indirect.

4.7.2.1 Direct Effect

Here is presented the significance of the direct influence of the structural model as shown in Table 11 below:

Graphically, the examination is presented in complete inner models in the Figure 2 below (solid line expresses significant path, dotted lines express non significant path):

From the examination in Table 11 can be expressed more of the following:

1. Testing the direct influence of written medicine information provision to the patient understanding path coefficient values obtained for 0.187 with a value of t-statistic of 1.273 <1.96 and p-value equal to 0.203> 0.05, it can be stated that there is no significant direct influence of written medicine information provision to the patient understanding in the sense that whatever value of written medicine information provision is, it does not have a direct influence on the strength or weakness of the patient understanding value.

2. Testing the direct influence of written medicine information provision to the oral medicine information path coefficient values obtained for 0.599 with a value of t-statistic 10.568 > 1.96 and p-value 0.000> 0.05 can be implied that there is a significant direct effect between written medicine information Provision and the oral medicine information. Positively marked path coefficient indicates that the influence on both is positive, in the sense that the stronger written medicine information provision values are, the more powerful oral medicine information values will.

3. Testing the direct influence of oral medicine information for patient understanding on medicine information received by path coefficient values obtained for 0.517 with a value of t-statistic by 3.888> 1.96 and p-value 0.000> 0.05, it can be stated that there is a direct significant influence of oral medicine information on patient understanding. positively marked path coefficient indicates that the influence on both is positive, indicating that the stronger the values oral medicine information are, the stronger the values of the patient understanding are.

4.7.2.2 Mediating Effect

Here is presented the significance of indirect influence of the structural model as shown in Table 12 below:

From Table 12, the examination result of indirect influence obtained is as follows:

Table 11. The significance of the direct influence of the structural model

Direct Effect	Path Coefficient (PC)	Standard Error (SE)	T Statistics (|PC/SE|)	p Values	Finding
H1: Given Written Medicine Information → Patient Understanding on received medicine information	0.187	0.147	1.273	0.203	NS
H2: Given Written Medicine Information → Given Oral Medicine Information	0.599	0.057	10.568	0.000	S
H3: Given Oral Medicine Information → Patient Understanding on received Medicine Information	0.517	0.133	3.888	0.000	S

Explanation: S= Significant; NS= Non Significant

Table 12. The significance of indirect influence of the structural model

Indirect Influence	Path Coefficient (PC)	Standard Error (SE)	T Statistics (|PC/SE|)	P- Values	Finding
H4: Written Medicine Information → Patient Understanding on received medicine information	0.310	0.088	3.514	0.000	S

Explanation: TS= Insignificant; S= Significant

The indirect effect of the written medicine information provision to the patient understanding through mediation oral medicine Information, the path coefficient for 0.310 with 3.514 t-statistic> 1.96 and p-value of 0.000 <0.05 can be stated that there is significant influence from written medicine information to the patient understanding through mediation oral medicine information. Positively marked path coefficient indicates that the direct influence of written medicine information for patients understanding is mediated by oral medicine information.

Indirect effect size determination in relation to the total effect or how big an effect is mediated, which is according to Hair (2014), is determined by the amount of Variance Accounted For (VAF) which is calculated by the following formula:[18]

VAF = (p12.p23) / (p12.p23 + p13)

Based on the data path coefficient written medicine information provision on patient understanding mediated by oral medicine information as shown in Figure 2, it can be calculated with its magnitude toward VAF written medicine information provision on patient understanding mediated by oral medicine information:

VAF = (0.608 x 0.521) / (0.608 x 0.521 + 0.179)
     = 0.316768 / 0.495768
     = 63.89% (20% ≤VAF≤80%) → partial mediation

So, oral medicine information provision partially mediates the effect of written medicine information provision to the patient understanding of received medicine information.
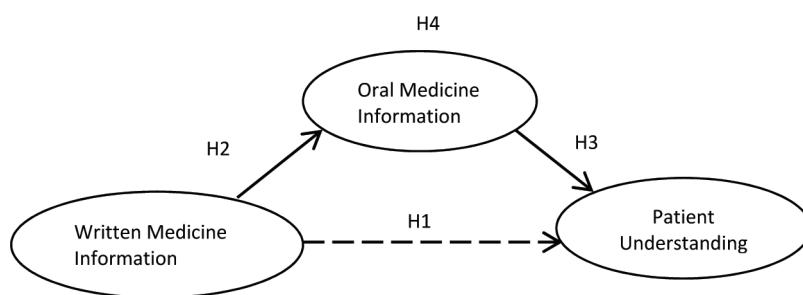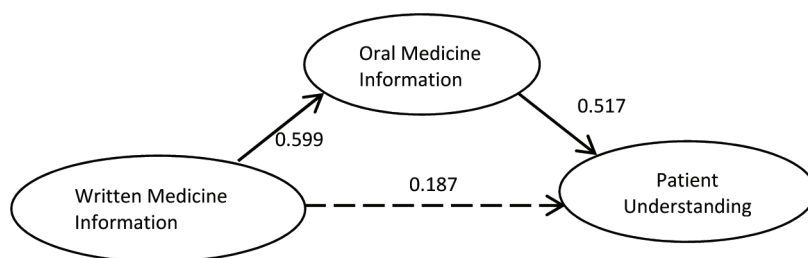

Figure 1.   Research Framework and Hypothesis.

Figure 2.   The Result of *Inner Model* on Direct Effect Examination.

4.7.3 Coefficient of Determination (R2 Value)

The most common size for evaluating the structural model is R^2. This coefficient is an accurate measurement of the predictive models and is calculated as the square of the correlation from the actual value of specific endogenous to construct predictive value. Coefficients express the combined effects of exogenous latent variables to endogenous latent variables. In addition to the square of the correlation coefficient of the actual value and the predictive coefficient, it is also stated that the number of variants in the endogenous constructs described by all the exogenous constructs is related. The R^2 has a range of 0 (zero) to 1 (one), getting closer to 1 (one) increasingly have a degree of predictive accuracy. Not easy to determine the rules of acceptable R^2 value because it depends on the complexity of the model and disciplines, as an example of the value of $R^2 = 0.20$ is rated high on the consumer behaviour discipline [18]. Chin (1998) states that the value of $R^2 = 0.67$, 0.33, and 0.19 show coefficient of determination that is strong, moderate, and weak.[15, 16] The R^2 in this study can be seen in Table 13 below:

Table 13. Coefficient of determination R^2

Latent Variable (Endogen Construct)	R Square	Finding
Given Oral Medicine Information	0.359	Average to strong
Patient Understanding on Received Medicine Information	0.418	Average to strong

4.7.4 The f² Effect Size

In addition to assessing all constructs endogenous R^2, R^2 value changes when certain endogenous constructs are removed from the model that can be used to evaluate, whether the removal constructs have a substantive impact on the endogenous constructs as well as the f² effect size states how much a construct predictors can contribute to the value of R^2 constructs targets in the structural model. Guidelines for assessing the effect of f² are 0.02, 0.15, and 0.35 that state to have the effect of small, medium, and large of latent exogenous variables.[18] Here are presented the value f² data processing results of research (Table 14):

From the data processing research results in Table 14, it can be stated that the value of R^2 oral medicine information provision construct receives one variable that brings a major impact on the written medicine information variable (f² = 0.560). The value of R^2 patients understanding constructs get two variables that are influential; the effect is moderate on oral medicine information variable (f² = 0.295) and a small effect on written medicine information provision variable (f² = 0.038).

Table 14. f² Effect size

Exogen Variable/Construct	Given Oral Medicine Information	Patient Understanding on Received Medicine Information
Given Written Medicine Information	0.560	0.038
Given Oral Medicine Information		0.295

4.7.5 Q2 Predictive Relevance

In addition to assessing the value of R^2 as predictive accuracy criteria, the writer also tests the value of Q^2 Stone-Geisser. Q^2 values measure model's predictive relevance, more particularly when the PLS-SEM shows predictive relevance, accurately predicting the indicator data in a reflective measurement model of endogenous constructs and endogenous single constructs. Q^2 value is greater than 0 (zero),

implying that the model has predictive relevance for certain endogenous constructs and on the other hand, Q^2 value is equal to 0 (zero) or lower, indicating no predictive relevance. Q^2 values are obtained using blindfolding procedures and only applied to the endogenous constructs that have a reflective measurement model including endogenous single-item construct.[14] The examination is presented in the Q^2 value as follows (Table 15):

Table 15. Predictive relevance Q^2

Latent Variable (Endogen Construct)	SSO	SSE	Q2 (=1-SSE/SSO)	Findings
Given Oral Medicine Information	120.000	89.957	0.250	Predictive Relevance
Patient Understanding on Received Medicine Information	80.000	55.092	0.311	Predictive Relevance

5. CONCLUSION

Patient understanding at Surabaya's primary health centres belongs to the adequately strong category with its source from the average level of its written and strong level of oral information. Indeed, with the majority of Surabaya's primary health centres' patients still adhering to oral/traditional culture, they require oral explanation in terms of absorbing written medicine information.

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